

JUNIOR-SENIOR HIGH SCHOOL CLEARING HOUSE

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EDITORIAL

Many uninformed persons will maintain today that the small high school should be done away with and, in fact, many are of the opinion that the small high school has almost gone. Throughout this number of the CLEARING HOUSE will be found statistics showing that the small high school is a very dominant institution and likely to remain so for many years to come. There is a real question in the minds of many who are vitally concerned with the development of the rural districts as to whether consolidation of schools is the only means of bringing about more nearly equalized educational opportunity. By placing in operation the techniques with which we are already equipped it seems likely that the small high school may become an educational force in no significant respect the inferior of the larger centralized organizations. In order to secure these techniques for the small school, it may be necessary to consolidate taxation districts and to enlarge supervisory units in many States. Whether we like it or not the emphasis in modern teaching is being placed more and more on the individual or small group rather

than on the class as a whole. If we can actually succeed in individualizing the instruction, there will be little reason for bringing large numbers of pupils together in order to instruct them in a given subject. True, the problem of securing equipment and able teacher personnel will all but discourage many conventional administrators. If the latter are secured there is likely to be slight cause to worry over the dearth of equipment. Adequate library facilities are necessary but these are being provided in many States by means of traveling and package libraries and by other plans of coöperation with larger centralized libraries. Versatile teachers will use the community as the laboratory. Who is prepared to say that this is inferior to the costly mechanical equipment of the large urban high school? By means of the contract or modification of existing supervisory-correspondence plans, itinerant teachers may handle almost as many types of work as could be offered in the large school. Mr. Maguire, principal of Public School 61, The Bronx, New York, maintains that the modern school does not provide the necessary safe-

guards to allow the child to educate himself—some teacher is everlastingly interfering with his progress.

Good roads make it possible for a teacher to cover wide areas in his teaching with little expense to the cooperating communities. With the development of the airplane and its general use, itinerant teachers will be able to multiply their usefulness many-fold.

The vitalization of the small high school will not be of interest to the pupils of adolescent ages only. Articles in this number of the *CLEARING HOUSE* indicate that adults of the communities being served by reorganized high schools may profit by secondary education.

Whatever trend the small high school may follow, it is worthy of the serious attention of all who are interested in secondary education. The situation is not hopeless—to the contrary, it is highly encouraging. F. E. L.

THE SMALL HIGH SCHOOL'S OPPORTUNITY

The suburban and medium-sized high school finds it most difficult to be experimental. Semi-educated and socially aspiring parents control the school processes—especially the curriculum. Such schools often develop splendid educational atmospheres, fine personal relationships between pupil and teacher and between parent and teachers, good guidance programs, and rich student activities. They are frequently housed in spacious buildings with lawns, play fields, auditoriums, libraries, laboratories, gymnasiums, and lunch rooms. They, sometimes, are very adequately administered with deans and clerks and files

and gorgeous office equipment. The Latin teacher has no task except to teach Latin; the football coach's responsibility is to win games. Only the deans and advisers deal with whole boys and girls. And too often they deal with paper records of all who are not in trouble!

The small high school—unless it is so small that teachers are driven to death by the number of subjects they must master and teach—has a great advantage compared with the larger one. The small school is fortunately hard to overstandardize; makeshifts are necessary. Each teacher must deal with boys and girls more than once, and in terms of more than one type of activity. Hence, he is likely to know John Jones in a way that is closed to the specialist.

The small school has a second advantage in the existence in its community of relatively disparate and cooperative, socially educative institutions. Such groups as the church, the "Four H," and the family are engaged in activities of interest to the school. Several State manuals and surveys have endeavored to promote the cooperative work of home and community and school. The home, particularly in the small high school's community, is often truly a home—it is not just a decadent vestige which is "prettied up" and slept in and entertained in; the village home is lived in, children grow up in it, chores are done in and about it.

The small high school has a third advantage. Its elective classes are so small that they must work by themselves to a large extent. They are, therefore, not likely to be overtaught. The pupils get the opportunity to educate themselves. In the relatively informal regi-

men of the smaller schools, pupils seek the assistance of teachers more frequently perhaps than in the typical departmentalized specialized high school. Teachers and pupils thus more often develop sustained partnerships than they do in the more meticulously regulated recitation-preparation-recitation system typical of the larger school.

THE SMALL PUBLIC HIGH SCHOOL AND THE TWENTIETH CENTURY

As we approach the beginning of the third decade of the present century, we find that the urban adolescent population has rather successfully invaded our secondary schools. In smaller villages and in rural communities, the percentage of children of secondary-school age who attend public high schools is not more than a third as great. According to the Bureau of Education's figures:

There are today in the United States 21,700 high schools. Reports have been received from 17,711 of these, of which 3,960, or 22.4 per cent, are urban high schools; that is, they are located in centers of 2,500 or more population; 13,751, or 77.6 per cent are rural—located in centers of 2,500 or less population.

In the 13,751 rural high schools in the United States there are only 1,079,086 children, or 28.8 per cent of the total high-school enrollment; in the 3,960 urban high schools there are 2,662,364 children, or 71.2 per cent of the total enrollment.

Rural communities are making heroic efforts to provide high schools for their children, but thus far their achievements in this direction have been less successful than those of urban centers. In point of numbers, more than three out of every four high schools are located in rural areas; in attendance these schools reach fewer than three out of every ten children now receiving a high-school education in the public schools. These figures become startling when it is considered that, while 52.8 per cent, or more than one half of all children between fifteen and eighteen years of age live in rural territory, only 25.7 per cent of them are enrolled in rural high schools; whereas 71.1 per cent of the children

of this age group living in urban centers are enrolled in urban high schools. It is clear that rural high schools either are inaccessible or do not offer opportunities sufficient to attract a high percentage of rural children of high-school age.¹

As a result of recent and impending legislation in most States, the amount of State aid available for small high schools will increase very rapidly during the next decade.

The American people are so generally convinced of the desirability of equality of educational opportunity and of continued school training that the growth of enrollment in small schools will probably be far more rapid in the next few years than that of any other unit of the public schools.

RURAL AREAS ARE INCREASINGLY AFFECTED BY THE MECHANICAL REVOLUTION

The greater conservatism and relative poverty of villages and rural areas as compared with the cities are not, however, the only reason for the slower growth of the small high schools up to the present. Much of the rapid increase in city high schools is due to two causes that are less effectively operative in the country: the lack of economic opportunities for city youths under sixteen years of age; and the social competition which stimulates parents to encourage their children to complete the high-school course.

Very rapidly, however, even farm life is being specialized and mechanized. Young children are economically valuable only for the very simplest of farm duties, weeding and thinning of garden crops, errand running, dish wash-

¹ "Rural and Urban High Schools." Editorial in *The School Review*, XXXVII, 1, January, 1929.

ing, and the like. Hence, the opposition of rural parents to school attendance is less general than it formerly was. The New York State Department of Education reports that the compulsory school attendance law now requires little enforcement; whereas, a decade ago the Division of School Attendance was a much overworked unit.

This improved attitude is partly a result of the growing universality of social aspiration which affects even the most remote areas. Good roads, the radio and telephone, Sears, Roebuck catalogues and Altman fashion booklets are penetrating the mountains of West Virginia and the prairies of the Dakotas. Boys and girls of the St. Lawrence plains and of Colter, Arizona, are scarcely distinguishable in appearance from their city-bred brothers and sisters.

Herbert Spencer pointed out, almost seventy years ago, that academic secondary education is a counterpart of social aspiration—"adornment" he called it. High-school attendance by rural children follows so quickly on the purchase of silk hose and soft-collared white shirts, that it is hard to tell which is cause and which effect.

Rural and village high schools, especially the consolidated schools, are bound to increase with amazing rapidity in enrollments, faculties, equipments, and programs in the next decade. Whatever the causes of this growth, the opportunity to direct the educational practices of these institutions belongs to the men and women, young and resourceful in mind and spirit, who are now or who will soon enter into the field of rural education.

REDIRECTING THE SMALL PUBLIC HIGH SCHOOL'S PROGRAM

Many of the State departments of education have published manuals dealing with the small high school of from two to five teachers. The pressing problems of teacher competence, of days per year, of laboratories and libraries, of minimal salaries and curriculum, and the like have been dealt with adequately in these bulletins. Standardization of small high schools has been the watchword.

Few of the State programs have addressed themselves to any fundamental program for the educational development of these schools. New Hampshire, in 1919, was, perhaps, the first State in which capable leadership was evident. Since that time, there have emerged many very energetic and capable educational leaders among the State supervisors of high schools. They must now direct their attention more to telic planning of high-school programs and less to standardization.

One such forward-looking plan of educational organization proposed by E. E. Windes (a contributor to this number of the *JUNIOR-SENIOR HIGH SCHOOL CLEARING HOUSE*) is thus explained by Professor W. Carson Ryan, Jr.:

.....He proposed, as some of you may know, that instead of weak staffs of four and five underpaid, undereducated, and overburdened teachers for these schools of from twenty to eighty pupils, one university man or woman of unusually good training and a salary several times what would ordinarily be paid in such a community be put in charge, with a very fine teacher-librarian as the other member of the staff. The job of this staff of two would be to direct, in a way none of the typical high-school teachers could have done, the enterprise of learning in that school. If this seems unduly fanciful to you, let me remind you that many of the most famous and successful

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academies of the early nineteenth century were organized on precisely this basis, except that present resources for directed learning are so superior to what they were a century ago that there is no comparison. Mr. Windes's proposal included professional supervision of a good type on a county or regional arrangement. It will be noticed that the plan would not be more costly than the present one, on the whole; it would provide expert direction instead of haphazard teaching; it would capitalize the individual initiative of pupils, not only in intellectual learnings of the book type, but in athletics and other similar activities, where at present so much is done in the wholly uneducational method of coaching from the side lines; it would make possible a synthesis, an interrelation of learnings quite impossible under any present plan of isolated departments and courses; it would emphasize achievement rather than time spent—one of the curses of the present scheme of things, as Morrison has so well shown; it would allow considerable differentiation, in rates of learning, in kinds of material learned, in treatment for further learning opportunities or vocational opportunities—in other words, educational and vocational counseling.³

Along with such experimentation as that just cited, however, should come a better orientation of the program of studies and of school activities to the present, and probably future, desirable enthusiasms and development of the local communities. The mere fact that many youths will leave rural and village life and must not, therefore, be unfitted for urban conditions, must not blind us to the fact that many *will* remain in the locality or in similar localities and that, after all, the parents of the local community are paying most of the cost of the education of their children. Might we not, in this developing institution, throw our core-curriculum emphases on such functional objectives as associational life, civic

knowledges and attitudes, wholesome living, the language arts, appreciations, scientific enthusiasms and method, and the practical arts? Might we not set aside time allotments and teacher energy for all pupils for the accomplishment of each of these objectives?

Would not the student-activities program be made more effective if one major aim of social behavioristic adjustment were selected and if we would then encourage as by-products the contributions to other worthy ends? Would not our social-science program be given a much needed orientation if civic attitudes rather than cultural or merely formal information were recognized as the goal? And so, if health and physical recreation, language uses, appreciation, science and mathematics, and the practical arts were acquired as ways of living of all children, the "grade" concepts would largely disappear, and growth would emerge as the purpose of the core curriculum.

Some provisions would doubtless be needed for overcoming actual deficiencies in the fundamental processes of a few individual children who do not speak, write, read, or compute with even a minimal degree of adequacy. And the elective offerings should, of course, be as wide as the cultural life and aspirations and resources of the community justify. But such variables could and should be largely individualistic. Formal classes in foreign languages, creative art and music, advanced science and mathematics, agriculture, home making, and industrial arts are scarcely justified. By "Daltonizing" such subjects, by arranging for school

³ W. Carson Ryan, Jr., "Selection as a Function of American Secondary Education," *School and Society*, XXIX, 756, June 22, 1929.

visits for inspiration, criticism, and instruction, by itinerant art, music, agricultural, and other specialties, much can be done even in the smallest schools to promote the individualistic development of interested pupils. Correspondence-school material and methods, though as yet little tried, are of great potential value for extending the curriculum of the small school. Home projects in agriculture, homemaking, household decoration, and industrial arts can be carried out successfully so as to supplement the school's often meager facilities. Stores, churches, auto-mechanic repair places, and electrical shops are too little exploited by

small schools. Salesmanship of magazines, appliances, clothing, and other goods offers very real opportunities for school crediting of desirable vocational education.

We need imagination and insight and courage in the development of the small rural high school. College preparation can be cared for through individual adaptation. It should not be made the primary and governing purpose of a school which is not yet even attended by the majority of children for whom it is instituted. As enrollments grow and as school programs become adequate, a new school must emerge.

P. W. L. C.

EXPLORATION IN THE SMALL SECONDARY SCHOOL

WILLIAM H. BRISTOW

EDITOR'S NOTE: *Mr. Bristow is assistant director of secondary education, Pennsylvania Department of Public Instruction, and one of our associate editors. Through his close touch with secondary education he has developed a very clear conception of the work of the small high school. Mr. Bristow believes with many of us, that the chief reason the small high schools are not more effective is because they have not made the most of their opportunities. His article indicates the way the better schools are developing.*

F. E. L.

Exploration has been recognized as one of the outstanding functions of the modern secondary school. The Committee on the Reorganization of Secondary Education, in its bulletin, "Cardinal Principles of Secondary Education,"¹ sets forth this need as follows:

Only through attention to the needs of various groups of individuals as shown by aptitudes, abilities, and aspirations can the secondary school secure from each pupil his best efforts. The school must capitalize the dominant interest that each boy and girl has at the time, and direct that interest as wisely as possible. This is the surest method by which hard and effective work may be obtained from each

pupil. . . . In order to test and develop the many important capacities and interests found in pupils of secondary-school age, the school should provide as wide a range of subjects as it can offer effectively. . . . Especially in the junior high school the pupil should have a variety of experience and contacts in order that he may explore his own capacities and aptitudes. Through a system of educational supervision or guidance he should be helped to determine his education and his vocation. These decisions should not be imposed upon him by others. . . . The work of the senior high school should be organized into differentiated curriculums. The range of such curriculums should be as wide as the school can offer effectively.

In the recent Yearbook of the Department of Superintendence,² Dr. Thomas

¹ Department of the Interior, Bureau of Education Bulletin No. 35, 1918, pp. 21-22.

² Seventh Yearbook, Department of Superintendence, National Education Association, 1929, p. 199.

H. Briggs has called attention to the exploratory function as one of the special functions of the secondary school:

To explore higher and increasingly specialized levels of interests, aptitudes, and capacities, looking towards the direction of students into avenues of study or of work for which they have manifested peculiar fitness.

Dr. Judd in the Inglis Lecture for 1928,³ in answering certain criticisms of the American secondary schools, forcefully calls attention to the needs for exploration and lists exploration as one of the outstanding contributions which American schools are making to secondary education.

In dealing with the exploratory function of the secondary school, much of the emphasis has been placed upon "differentiated curricula," "practical arts," "vocational courses," "commercial education," "homemaking," etc. Any extended program along these lines must, in general, be primarily in large secondary schools. In many respects the small secondary school is practically eliminated when "exploration" is thought of in the terms outlined above.

It is generally agreed that the large school, with its differentiated curricula, is much to be preferred. In an article in *School Life*,⁴ Principal Stuart calls attention to the fact that certain phases of a differentiated program are impossible without large enrollments. In this article he makes a strong plea for

differentiation to meet individual needs and capacities.

Data supplied by the Bureau of Education indicate that approximately sixty per cent of the high schools of the United States have an enrollment of less than one hundred, and approximately seventy-five per cent have an enrollment of less than two hundred pupils. For these schools, an extensive program of exploration, as it is generally conceived, is out of the question.

Granting that the large secondary school can administer more effectively to the differentiated needs of boys and girls, and that every effort should be put forth to effect larger units—something should also be done to secure such exploratory opportunities as are consistent with the sound educational program for those boys and girls who must, for a long time to come, attend small high schools. Exploration is by no means confined to the practical arts, commercial, or vocational education, although these are important aspects of such a program. Other aspects of the work of the secondary school are equally important from an exploratory viewpoint. If this were not the case, those working in the field of rural secondary education would have cause to feel disheartened with the present prospect. A visit to a modern comprehensive secondary school reveals that a pupil has available courses of study covering a wide range of activity. Evaluated in terms of the "equity" of educational opportunity, the pupil who must attend a small high school is placed at a great disadvantage. The challenge, however, rests with those dealing with a

³ Charles Hubbard Judd, *Unique Character of American Secondary Education*, (Cambridge: Harvard University Press, 1928).

⁴ Milo H. Stuart, "What should Be the Size of a Secondary School for Maximum Efficiency?" *School Life*, XIV, 10, June, 1929.

small secondary school to find ways and means of adapting the program so as to secure, at least in some measure, the values which are to be had from the comprehensive secondary school.

It is the purpose of this paper to call attention to some of the means which may be utilized in the small secondary school to provide more adequately for the "exploratory function."

EXPLORATION THROUGH ENGLISH CLASSES

When conceived from the exploratory viewpoint, English offers many splendid opportunities. Those engaged in the field of teaching, those responsible for public addresses, salesmen, stenographers, business executives, newspaper writers, short-story writers, poets, and scores of others, depend to a large extent, for advancement in their professions, upon their ability to use correct English forms and convincing speech. Business executives and those responsible for holding public meetings are continually calling attention to the need of a sound foundation in the use of the mother tongue. If, instead of the usual formal approach which is made in English, the teacher should set out at the beginning to discover those interests, capacities, and abilities of the individual pupils along the various lines which will eventually lead to occupational and recreational interests, there is little question but that the pupil would come to see more nearly the value which is to be placed upon the study of this subject. He would also see the part which it can play in his life career. There are

few people who can be convinced that formal English has a great deal of value except that it aids in the amassing of the "credits" which will eventually lead to high-school or college graduation. When, on the other hand, the approach is such that the subject is shown to have a definite relation—vocational and avocational—to future life needs, a new and alluring vista is opened up.

One has only to visit a high school where "creative writing" has been given a place in the English course to realize the "exploratory value" of this new concept of pupil production. The movement is as yet new, but has already exerted a profound influence upon school procedure.

In connection with the English program of the school, opportunity should be offered for a serious study of dramatic form. Those pupils who have abilities and capacities along these lines should be encouraged, by every means available, to secure facility in a field which may eventually lead to a profitable vocation. Likewise, pupils interested in journalistic pursuits, in advertising, etc., should be given an opportunity to explore these interests.

SCIENCE IMPORTANT AS AN EXPLORATORY SUBJECT

In the small secondary school, the science laboratory may well be a workshop in addition to a general laboratory. Plans have been developed in certain small junior high schools for a combination science-and-shop room. In such an environment, a pupil taking science who has capacities and abilities

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which may later be utilized in automobile mechanic, electrical, or other fields, may be given an opportunity to "try out," at least in a small way, these interests and capacities.

In a German secondary school in Cologne, the writer's attention was called to a physics teacher who had developed, in addition to the theoretical work of physics, an extensive shop equipment in which the boys carried out practical projects at the same time they were studying theoretical measures. Most of the materials which made up this laboratory shop had been collected from the community. There were many opportunities for boys with a handy turn to show their skill in practical work. Materials of this sort can be collected in practically every community and can be utilized in connection with science courses, affording abundant "exploratory opportunities." The interest which boys have in radio, aviation, electricity, etc., should be utilized. There is no reason why the "storage battery," with opportunity for work beyond a mere theoretical discussion, may not be made a part of the science-instruction program either in connection with general science, chemistry, or physics. As has been pointed out above, if this philosophy of science instruction is to be carried out, a very different type of science room will be necessary. In addition to the usual laboratory equipment (which often consists of little more than play materials), the laboratory will become a workshop equipped to give greater opportunities for the exploration of interests.

Likewise in the field of biology and chemistry, pupils who are interested in occupational fields, depending upon these subjects for basic knowledge, should be given an opportunity to do special work. Biology furnishes opportunities for exploring interests which may later lead to research activities, medicine, etc. Here again the laboratory will become more of a workshop and less of a book-learning classroom. The writer recently visited a chemical laboratory in which the chemistry of cement making was made one of the outstanding projects. This school, located in a cement-manufacturing district, furnished many of the chemical assistants required in the plant. In another community, in which steel is the leading industry, metallurgy was emphasized and many of the boys attending the school developed the interest which later led to further professional training and subsequently highly satisfactory positions.

MATHEMATICS ALSO HAS ITS PLACE IN THE EXPLORATORY PROGRAM

The basis of higher accounting is to be found in algebra; trigonometry is a basic subject for those who would enter any of the engineering positions; rapidity and accuracy in handling numbers are essential to those who would enter the business field. These three examples illustrate ways in which mathematics may well contribute to the exploratory function of the secondary school. All are within the range of practically every small high school. The use of surveyors' instruments, the handling of school accounts,

bank visits, etc., furnish worth-while activities with great exploratory value.

MUSIC AND ART INCREASING IN IMPORTANCE

The music program of the secondary school should be made to play an important part in the exploratory program. Encouragement should be given to "production" in cases where pupils show exceptional tendencies along musical lines. Opportunities should be given in class instruction and in extra-curricular activities for the development of these abilities. While relatively few persons will find their occupation in the musical field, yet there are, in many small communities, pupils of outstanding ability who should be encouraged to follow music as a profession. In addition, the avocational aspects of music should not be neglected as many will develop "interests" through high-school contacts.

There is an increasing demand in the field of art for designers, interior decorators, illustrators, etc. The small school cannot be expected to provide the courses in the arts and crafts which will prepare pupils to enter actively upon these occupations or to furnish all of the basic information necessary for further study. On the other hand, preliminary courses can be given so that these interests may be kept alive until the pupil can avail himself of the requisite training.

NEW FIELDS OPENED THROUGH HOME ECONOMICS

In connection with the home-economics courses, in addition to the general basic training which should be a part of

the education of every girl, the exploratory function can be served by calling attention to, and giving an opportunity for, exploration along lines which may eventually lead to such fields as dietitians, tea-room managers, designers, etc. If this is to be done, it is essential that the teacher of home economics approach her work not only from the viewpoint of giving essential basic training in the field, but also from the viewpoint of opening up to girls possible vocations and interests.

The equipment and materials needed for establishing the home-economics course need not be elaborate. While it is desirable to have separate cooking laboratory, foods laboratory, and practice facilities, in the small school it is possible to design a single room so that all of these functions can be cared for. Too often the home-making program has been delayed by the erroneous belief that facilities, out of proportion to those required for other subjects, were needed.

THE GENERAL SHOP OPENS UP EXPLORATORY OPPORTUNITIES

The general shop, with its varied activities, is making it possible to bring to the small school a type of exploration which has heretofore been impossible. Under a single teacher, it is possible to organize a number of activities, thus giving exploration in several fields. By making this work required in the junior unit of the secondary school and by giving opportunity for individual election in the upper unit, pupils having special abilities should be able, under the direction of even a

single teacher, to carry on more or less independently in a field of major interest. In schools in which the program is such that the full time of a shop teacher is not demanded, teachers may be employed who can teach courses in such other fields as mathematics and science. The itinerant teacher instructing in two or more schools also makes it possible for the small school to provide instructional service in this field. This same plan can be carried out in the field of agriculture.

FULL COMMERCIAL CURRICULUM NOT NEEDED IN SMALL SCHOOL

The introduction of such courses as junior business training provides an opportunity for exploration which gives a preview of the field of commercial work. By adding to the junior business training a course in typewriting and a course in bookkeeping, a reasonably satisfactory general commercial program can be organized without placing the commercial work beyond the means of the small school. Such a course should not, however, be considered as a full vocational course.

HEALTH AND PHYSICAL EDUCATION INCREASINGLY IMPORTANT FOR EXPLORATORY PURPOSES

The increasing demand for teachers and instructors in the field of health and physical education should challenge those in charge of this field to encourage boys and girls who have outstanding physical capacities and abilities to enter work along this line. In a small secondary school the health and physical-education program is ordinarily limited. Pupil leaders are needed to

aid the teacher assigned to the work to carry out the program of physical education. Such pupil leaders, in addition to the value which they have for the school, are securing valuable training in leadership and exploration in an increasingly important field. The home-nursing courses, as conducted by the Red Cross, are also of exploratory nature and give an opportunity whereby certain pupils may find their life work in the field of public health.

LIBRARY ESSENTIAL TO EXPLORATORY PROGRAM

A librarian is becoming more important both in the school and in the community. In the small secondary school it is frequently necessary to have the major part of the library activities carried on by pupil leaders, under the direction of a competent teacher-librarian. These activities are valuable, inasmuch as they contribute very definitely to the exploratory program. Pupils having abilities and interests in the library field have these intensified, and frequently develop interests which later carry over into a profitable vocation.

It is also essential that library books and materials in the various fields of learning be made available to every secondary school. This can best be done by having each school develop an individual library supplemented by such sources as the county or State library. When a budding interest has been discovered, it should be the function of some teacher in the school to place at the disposal of the pupil those resources which will make it possible for him to develop the interest. References in the

field of vocational guidance, in the practical arts and vocational courses, in home economics, language, literature, art, music, etc., must be available at the time they are needed.

These are but a few of the ways in which the small secondary school may contribute towards the realization of the "exploratory function." Language and other phases of the work can be made equally vital from this standpoint.

Every person has some interest. It is a part of the obligation of the secondary school to encourage these interests, give opportunity for exploration and participation which will intensify them, and develop them to where they will "lead on" to future vocational or avocational training. It is important that the school recognize the dominant interests of the pupil and give opportunity for their expression and exploration. A review of the lives of men of importance reveals many early interests which have persisted throughout life. If the school program, from the exploratory point, is to be satisfactory, youth must be placed in an environment where satisfying experiences may be had. The school must interest itself in the talents which the pupil possesses and give opportunity for their future growth and expansion. The present curriculum can be utilized far more advantageously than is usually the case for these purposes. If the school sets as one of its major objectives the finding and development of worth-while interests through exploration in every phase of the curriculum, much can be accomplished.

It is essential that the school also recognize the fact that the life of the pupil does not cease when he leaves the school at the end of the day. It must, therefore, assume responsibility for directing and guiding many of the interests which have their inception in the home, in the community, on the farm, in the basement workshop, in the library, etc.

The increased facilities for transportation should make it possible for pupils in the small communities to have the advantages of school journey projects which are now primarily enjoyed by pupils living in the larger centers. In this connection the school may well organize its program whereby school journeys may be taken to industrial centers, thus giving the pupil an opportunity to see what is ahead of him if he is to enter the industrial field. Likewise, opportunity should be given so that the pupil may have an insight into possible vocations and professions and how his own interests and capacities may be best utilized in securing a livelihood.

PERSONNEL WORK CONTRIBUTES TO EXPLORATORY PROGRAM

Perhaps the outstanding deficiency of the exploratory program in all secondary schools has been the lack of a definite and well-organized personnel program. If the advantages of exploratory education in both large and small schools are to be turned to account in helping youth to find itself, it is essential that the school have available accurate, concrete, and definite information upon which to give pupil advice and guidance.

Such a program will make it necessary that every school have, either in the person of the principal, a guidance counselor, or teacher, especially prepared in this field, a person trained in the field of personnel organization and administration. It also means that administratively a system of records and reports and a plan of reporting be set up to make available the data necessary for a scientific personnel program.

EXTRACURRICULAR ACTIVITIES CONTRIBUTE MUCH TO THE EXPLORATORY PROGRAM

The club and general extracurricular activity program give an opportunity for exploration in the fields of interest which may not otherwise be provided for in the regular school curriculum. The home-economics program of many small schools has been started as a club activity. Pupils interested in geography may find a teacher who is interested in travel as a source of inspiration. Dramatic and public-speaking interests may be intensified and guided through club activities. Schools which do not have a commercial department may find a commercial club helpful in focusing attention on the preparation needed for entrance into the commercial field and in giving exploration in some of the essentials for successful work in these fields. In large high schools a radio club has given initial training to a number of wireless operators.

The emphasis which is being placed on individual instruction is also of great significance for the exploratory program. When class instruction is con-

ceived as directed learning, the teacher has an opportunity to vary the work prescribed for an individual pupil in such a way as to utilize and explore dominant interests of this pupil. Perhaps one of the outstanding contributions which will be made in the development of the small school is to be found in this movement to individualize instruction.

Suggestions have been made in some quarters for increasing the opportunity for individual work in the small secondary school through correspondence courses. Some experimentation has been conducted in this field. As techniques are devised and courses developed, a program may be worked out whereby correspondence study may be used to supply some of the deficiencies which now exist by reason of the limited curriculum of the small secondary school.

Exploration has been accepted as one of the major functions of the secondary school. While the exploratory program can be carried out on a much more satisfactory basis in the large school, the case of the small school is by no means hopeless. Every effort should be put forth to utilize facilities now available in the interest of developing a school situation whereby boys and girls may have an opportunity, under the direction of the school, to recognize the lines of activities in which they can probably best succeed and develop abiding interests which will furnish the "drives" to carry them to successful preparation in the fields in which they can succeed. Thousands of boys and

girls are now leaving the secondary school with little or no guidance, and with little or no knowledge of the work of the world. After a period of blind try-out, these same boys and girls find employment in occupations in which they are successful. They make a livelihood, rear a family, and become respected citizens of the community. The

secondary school, through its general program, in so far as its facilities permit, must accept responsibility for exploration, and for giving the information and guidance which these boys and girls are in need of. Each school should set for itself the task of making "exploration of interests, aptitudes, and capacities" a reality.

VOCATIONAL AGRICULTURE IN TENNESSEE HIGH SCHOOLS

N. E. FITZGERALD

EDITOR'S NOTE: Mr. Fitzgerald is professor of agricultural education at the University of Tennessee. For years he has visualized the possibility of vitalizing rural life in his State by bringing the whole of the rural population into the closest touch with the small rural high school. His article emphasizes, with facts, the necessity of teaching a thing when it is needed rather than at a convenient time. The small high school is leading the way to an appreciation of the fact that secondary education does not need to cease at the close of the "secondary-school age," but rather that the high school may become the people's college in fact as well as in name.

F. E. L.

The teaching of vocational agriculture in the high schools of Tennessee was begun in 1917 after the passage of the Federal Law providing for the promotion of vocational education in agriculture. During the first year there were only ten schools in which agriculture was taught. There were no teachers trained for this type of work and those secured were for the most part graduates of a course in agriculture, but a few had had only some professional training and experience on a farm. At the present time there are more than 125 high schools in which departments of vocational agriculture are located. The teachers in charge of these departments are graduates of a college having had work in agriculture equivalent to that required for a degree in agriculture. They also are professionally trained, having had at least 27 quar-

ter hours in education, including agricultural education, which is the minimum for State certification in Tennessee.

A very notable tendency in the establishment of new departments has been the placing of these in the small high schools in the rural districts. The outstanding difficulty found in the proper development of departments of vocational agriculture in the small schools is the impossibility of securing a sufficient number of pupils in one school, in order to convince the administrators of these schools that teaching agriculture is a full-time job. The organization of evening classes, part-time classes, and day-unit classes has never sufficiently impressed the administrators to cause them to permit sufficient time to be given the teacher in order to do this organized work. As a result, we

still have teachers of agriculture teaching other subjects for approximately two periods each day, assuming the duties of the principalship, or coaching the athletics. Teaching classes other than the regular classes in agriculture causes the teacher to put in a full day in class work and makes it quite difficult for him to find time available for the organization of evening classes among farmers and day-unit classes in the near-by rural grade schools. Teaching agriculture and holding the position as principal divides his interest to a considerable extent and either keeps him from doing as much field work as he should or causes him to slight the supervision which a principal must do in order to keep his school in the front ranks. Coaching athletics and the teaching of agriculture do not go together, because the coaching of athletics requires the teacher's presence at the school grounds during the afternoon when pupils are not in classes. Such an arrangement makes it impossible for him to visit the boys and help them in their supervised farm practice after the school day is ended. It also, to a degree, keeps the teacher of agriculture from spending sufficient time with the farmers in the organization of other types of work.

Evening classes have been developing very rapidly in the last two or three years. The Annual Report of the State Supervisor of Agricultural Education in Tennessee for 1928 reports 31 evening classes for white farmers. The report for 1929 will show a considerable increase, not only in the number of classes organized, but also in the num-

ber and length of meetings, and in enrollment. The number enrolled in evening classes in 1928 was 720.

In West Tennessee a decided improvement was noticed in evening-school work during the past year. This was due to the work of Frate Bull, district supervisor of vocational agriculture, who emphasized the evening-school work in that section. Mr. Bull was himself a teacher of agriculture in one of the schools of Carroll County for a number of years and was able to lead the farmers of that section into a realization of their opportunity in the use of new methods in agriculture. One of the farmers of his community said some time ago, "If we could have had a teacher of vocational agriculture in our community twenty-five years ago, our community would not have had to suffer the hardships we have had." Evidently this farmer was one who had learned some of the new practices which made it possible for more than 25 per cent of the farmers to increase their cotton yields over 50 per cent by the use of proper fertilizers. It was figured that the application of fertilizer gave a clear profit of \$20 per acre. Since the time of this report, much additional work has been done looking towards the economical production of cotton and the building up of land which is of so much importance in the western part of the State. Several evening-school classes have been conducted in this community with an average attendance of 30 adult farmers. In the same county this year evening classes were held in dairying in

each of the schools in which vocational-agriculture teachers were employed.

An outstanding example of the type of work done in evening classes during the past year was found at Milan, Gibson County, Tennessee. This school has had a department of vocational agriculture for several years and this year the teacher, W. S. Baldwin, organized an evening class in soil improvement. This class met for twelve weeks. The total enrollment was 130 adult farmers; the average attendance 41; the total number of new farming methods put into practice, 114; number of farmers making changes in their farm practice, 43; and number who attended enough meetings to count as pupils, 72. One teacher in East Tennessee conducted three evening schools in three different places, all of these being away from the high school. He had a total attendance of 60 farmers at these classes. In addition this teacher was carrying a full load of work in the high school. The teacher was T. L. Mayes at Tazewell, Tennessee. This teacher also had in his class a boy who has won the State contest for the past two years in tobacco grown with Chilean nitrate of soda.

Part-time classes have not yet made much progress, only 52 persons were reported as being enrolled in this type of work in 1928. The tendency here, however, is to enroll boys between the ages of sixteen to twenty-one in the evening classes instead of organizing special classes for them. Part-time work is intended for persons of the above ages, expecting that they will spend a part of their time in school and

a part of it in the business of farming. A study made of available boys between the ages of fourteen and twenty-one in the Ritta community in East Tennessee by A. L. Rubin, teacher of vocational agriculture, and a similar study made in the Chester County High School community in West Tennessee by T. H. Williams, teacher of vocational agriculture, showed that there were relatively few boys available who were interested in continuing the study of agriculture and who live close enough together to organize a class satisfactorily.

Day-unit work was more popular and 936 individuals were reported as enrolled in this type of work. Boys in this type of class are found regularly enrolled in the public elementary schools in the upper grades.

In the all-day classes in the public high schools 3,672 boys were enrolled in the classes in agriculture in 1928. There is a larger enrollment in this group, because the boys are already in school and agriculture becomes one of their subjects of study. An additional reason for the superior enrollment is that this type of work has been promoted from the very beginning while the work in the evening classes and in others is relatively new.

The importance of these types of work from a vocational viewpoint would place evening classes as of first importance, all-day classes second, and day-unit classes third. It has been found that farmers in evening classes put into practice much more readily the practical jobs taught than do students in the other groups. This is probably due to

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the fact that the farmers are interested in doing better the jobs that are actually confronting them in their business, while the high-school boys and the boys in the grade schools do not feel the importance of the work, since it is not a direct problem to them. A study made last year in Campbell County, Tennessee, by E. D. Stivers, professor of agricultural education at the University of Tennessee, found that a course in agriculture for boys in the grade school made rather general in character, and probably following a text, showed a very small percentage of completions of projects as compared with courses organized on the unit (farm enterprise, or farmer's job) basis for boys of similar ages. This indicates that definiteness of teaching in connection with a farm problem is also productive of results with persons in other types of classes, as well as with those in evening-class work.

The small high school has a superior advantage in developing the work in vocational agriculture in some respects. One outstanding point in favor of the small high school is that it is usually located in a rural district, and therefore, a larger percentage of the boys attending that school would normally be prospective students for agriculture. Another advantage would be that most of the boys enrolled would have farm facilities that could be used in connection with their projects and other supervised farm practice. A third advantage would be the large number of farms available near-by for the teacher to use as laboratories.

The development of the practical side in the teaching of agriculture has

been the constant aim, but this has been emphasized during the last few years. Figures are now compiled annually to show the comparison of yields produced by the boys in vocational agriculture and by the farmers in their community. In most cases this has shown that the boys have produced averages considerably above the average for the community. The 1927 Report of the State Supervisor of Vocational Agriculture gave the average project yield for corn in Tennessee as 40.8 bushels and the average State yield 24 bushels, average project yield for sweet potatoes 132 bushels and average State yield 112 bushels, average project yield for Irish potatoes 89.8 bushels and average State yield 56 bushels, average project yield for tobacco 1,018.3 pounds and average State yield 810 pounds, and average project yield for cotton 320.4 pounds lint and average State yield 189 pounds lint.

There are also many outstanding individual successes that are worth while mentioning. A boy in one of the East Tennessee high schools bought a registered sow to care for as an agricultural project. He not only carried this project during his high-school course in agriculture, but he arranged for his brother to attend to it while he was away at the University of Tennessee. During the seven years when this project was carried, 140 pigs were produced which brought \$840. This boy is now a graduate of the University and has bought 34 acres of land from his father at \$850. He planted two acres of this land to tomatoes and made \$150. Twelve acres of the tract are now in peach trees and the rest of the acreage

is used for special crops, like strawberries, and for hog pastures. This boy was able, through carrying a project, gradually to grow into the farm business.

Other boys are doing similar things and succeeding as well, for the amount of time put in. Another East Tennessee boy was interested in trucking and one year netted from a four-acre okra project \$791.65. A boy in middle Tennessee cleared \$1,225.25 on tobacco which he carried as his project one year.

Many more such illustrations as the ones just given and also those given concerning evening-school work in this article could be cited, but all of them would be quite similar, and show the progress that is being made by individ-

uals who have the farm facilities and who are using these in connection with their study of agriculture. The outstanding successes have been in those districts that are strictly rural and it is hoped that the number of these will soon be sufficient to convince school administrators of the importance of not only permitting the teacher to have more time for the organization of evening-school classes, but also that they will require these teachers of agriculture to teach such work as a regular part of their program. The small high school in the rural district has a splendid opportunity to help the farm population in a study and interpretation of the many factors that influence production and marketing.

THE INSTRUCTIONAL PROBLEM OF THE SMALL HIGH SCHOOLS OF ALBEMARLE COUNTY, VIRGINIA

E. E. WINDES

EDITOR'S NOTE: *Mr. Windes is associate professor of secondary education, University of Virginia. Possibly no one individual has had more to do with shaping policies for the small high schools of this country and with interpreting those policies to the leaders of secondary education than did Professor Windes while he was with the United States Bureau of Education. His article shows that he is using his knowledge of the problems of the small high school to develop a most interesting experiment in secondary education. Our readers will watch the development of the plan with great interest.* F. E. L.

The American public demands a comprehensive-type secondary school. In response to that demand, the evolution of our secondary school from its origin has been in the direction of comprehensiveness. The Latin grammar school was displaced by the more liberal academy which shaped its program in accord with the public demand for additional special types of education. The academy later adopted a restrictive aim and narrowed its program, with the result that it was in turn displaced by the public high school which accepted a

broader aim and provided more comprehensive programs of training. With the rise of the idea of adaptation of secondary-education programs to the major occupational interests of the local community served by the school, special vocational schools began to appear in various situations. Where a special vocational school has appeared as the only secondary school available to a local community, the school has commonly been a complete failure and yielded its place to a comprehensive-type school, or it has evolved a com-

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prehensive program of studies, renouncing its special vocational purpose while clinging to its restrictive name. The best examples of such schools are the vocational schools of agriculture and homemaking, which began to appear about 1903 in Mississippi, Alabama, Georgia, Arkansas, Virginia, and Wisconsin. This common phenomenon of the failure of special vocational schools and adjustment in the direction of more comprehensive training programs has been evidenced also in the case of teachers colleges and agricultural and mechanical colleges, where established as separate institutions. It is probable that our educational theory which advocates the comprehensive-type secondary school has been evolved in response to a practical situation which forces local institutions of a restrictive type to adjust their programs in the direction of comprehensiveness in order to survive.

The situation which calls into being the small high school is just the type situation in which the restrictive type secondary school has been a complete failure. The demand upon the schools is for comprehensiveness. Efforts to meet this demand are responsible for two exceedingly important policies. These are centralization and increasing instructional costs incident to narrowing pupil-teacher ratios as course offerings are broadened.

In certain situations centralization has been effected with good results. These are the situations where physical conditions permit transportation without imposing hardships on pupils and without entailing excessive costs. Any one, however, who inspects the second-

ary-school systems of the United States may find many instances where centralization has been effected through imposing hardships on pupils and costs upon the community which constitutes a serious economic burden. Numerous situations may also be found where centralization to the point of assembling thirty or more high-school pupils is a physical impossibility. Centralization as a means of realizing comprehensiveness in secondary education is a tool that has probably been applied as extensively as is wise.

There are situations where one may possibly justify, on the ground that the community can afford it, the existing practice of administering secondary education of average quality through imposing instructional costs of from \$350 to \$1000 per pupil per year in an effort to parallel in the small schools the offerings and organization of large schools. Many local communities, however, cannot, and more will not, submit to such costs. Unquestionably the common practice of State systems has gone rather farther in broadening small high-school programs through providing more teachers for a given school than can be justified. The quality of instruction in all fields of effort is being held lower than would otherwise be the case, because we are using available resources for the employment in small schools of more teachers than are needed.

GROUPING PUPILS DOES NOT SOLVE THE PROBLEM OF THE SMALL HIGH SCHOOL

The instructional problem of the small high school is to achieve comprehensiveness through which individual

pupil purposes, interests, and abilities may be appropriately recognized in the process of education. The policies of centralization and of narrowing pupil-teacher ratios are partially applicable at best. As sometimes applied, they are actually vicious. Fundamentally, they assume the fallacy that individual differences may be appropriately recognized through segregation of homogeneous pupil groups for instructional purposes.

It is not enough, however, to provide special curricula to be followed by *groups of pupils*. Where this means election, as between a college preparatory curriculum and a practical-arts curriculum, it leads to more or less arbitrary steering of dull pupils into the practical-arts curriculum. This practice has resulted in the attachment of a definite social stigma to certain fields of secondary education. This should not be. There is a definite need of, and a place for, both the dull and the bright in all the major occupational fields. Where provision of special curricula for groups of pupils means adaptation of courses, as in English, to bright, average, and dull pupils, it leads to the attitude that individual differences of pupils have been recognized through adaptation to groups and that teachers can set identical tasks for all members of a recitation group. This practice of ability grouping is, therefore, doubly dangerous. It assumes a reliability for measures of ability that the facts do not warrant and results in denial of the proper educational opportunity in too many cases. It tends, also, to slow down effort to find a really effective way to deal with pupils according to individual need.

A MORE DIRECT ATTACK ON THE PROBLEM

Through a fortunate coöperative arrangement between the Department of Education of the University of Virginia and the public-school system of Albemarle County, Virginia, the writer has been privileged to attack experimentally instructional problems of the small high school in an effort to test the feasibility of providing education suited to need for individual pupils throughout the range of current secondary-education programs. The essential features of the ideal program being worked towards are:

1. Adoption of the unit plan in teaching so as to provide essentially self-teaching unit outlines which individualize instruction within units covering work periods of from two to six weeks.
2. Utilization of itinerant departmental teacher-supervisors of superior training and ability to supervise the development of unit outlines, do occasional teaching, and supervise local teachers.
3. Equipment of each classroom as a working laboratory, where adequate reference and other instructional supplies are available for all courses offered.
4. Gradual extension of course offerings in all high schools so as adequately to represent the recognized departmental fields of secondary education.
5. Scheduling of two or more small class groups in a departmental field to one teacher at a given period; e.g., American History and Problems of American Democracy, scheduled to a teacher at the same hour.

Albemarle County operates seven accredited four-year high schools superimposed on a seven-year elementary school. The enrollment in the smallest of these schools is approximately 50 high-school pupils. The enrollment in the largest is approximately 125. From three to five full-time secondary teachers are available in each school and one

itinerant teacher of vocational agriculture is employed. There are, also, available to the high schools on a part-time basis, one general supervisor and five special supervisors of instruction. The high schools are distributed at distances from nine to twenty miles from the city of Charlottesville where the superintendent's offices are located. They are accessible over macadam or concrete highways.

We have successfully introduced the unit plan of teaching to the extent that approximately 75 per cent of all teaching is on that basis. The plan as we are using it is described in detail in *Secondary Education in Virginia*, Volume 13, Number 8, February, 1929.

In general, the unit assignments are mimeographed and furnished to individual pupils. They give specific working directions for the prescriptions of the unit. The prescriptions are made for three levels of mastery corresponding to marks of "D" or "C," "C" or "B," or "B" or "A," on a four-point literal marking scale. These unit assignments are worked out in tentative form by committees of teachers and submitted to the departmental supervisors who work them into shape for mimeographing and distribute them back to teachers throughout the county.

The itinerant teacher-supervisors visit each school for occasional introduction of units of teaching, conducting group exercises, and especially for summary and generalization at the close of a unit of work. Uniform mastery tests are administered at the close of each unit of work and comparative results distributed to the teachers concerned. During

the period allowed for the unit, pupils work individually from written assignments containing study guides. The teacher directs study and conducts such group exercises as seem advisable. The major portion of the time is utilized, however, for individual study. On this basis a teacher can direct two small groups without difficulty. We have scheduled a group in American History and one in Problems of American Democracy to a teacher at the same period. English III and IV, and Latin III and IV have been similarly scheduled. We do not think that this practice has impaired instructional efficiency. We see no reason why three or four pupils in each of several subjects in a departmental field cannot be directed efficiently in this manner. We think such procedure is definitely preferable to the traditional practices of alternation and combination. The burden of planning is distributed. Plans are perfected by highly trained teacher-supervisors who are subject-matter specialists, and these plans reduce needed supplementary direction so materially that the classroom teacher has her work materially lightened. Complications arising from failure and irregular attendance which make programming impossible under alternation and combination are avoided and the possibility of enforcing real curriculum sequences exists.

We have as yet no objective evidence on the effect of scheduling more than one group to a teacher at a given time. We do have objective evidence that the first effort of a teacher to use the unit plan results in increased instructional efficiency.

A COMPARISON OF THE UNIT PLAN AND THE DAILY RECITATION METHOD IN AMERICAN HISTORY

Mr. Collin E. Smither,¹ in his master's thesis studied the comparative effectiveness of the unit plan and the daily recitation method in American History, utilizing classes in the high schools of Albemarle County and the city of Charlottesville. His procedure was as follows:

Six groups of pupils studying American History were selected for comparison. These groups are designated as UI, UII, and UIII; RI, RII, and RIII. The U groups were taught for a semester according to the unit plan and the R groups were taught according to the daily recitation plan. Groups UI and UII were taught by two different teachers estimated to be equal in teaching ability to two other teachers who taught groups RI and RII. Groups UIII and RIII were taught by the same teacher in the city high school of Charlottesville, Va.

At the beginning of the period of instruction two group intelligence tests and six standard achievement tests in

American History were administered to all pupils. The scores from these tests were converted into standard scores² and combined for an index of ability so as to give equal weight to the intelligence and learning status in American History. Pupils were instructed for a semester and at the close of the period of instruction alternate forms of the standard achievement tests were administered. Results of the second testing were converted into standard scores based on the means and standard deviations of scores on the first testing. Gains for groups of pupils were studied in terms of the average gain in standard score for matched groups and for unmatched groups, separately for city and county pupils. The matched groups were formed by pairing pupils from the U and R groups who had approximately identical-ability indices at the beginning of the period of instruction. The unmatched groups involved all pupils as they happened to occur in the class sections selected. The results of this procedure are shown in Table I below for county and city pupils combined.

TABLE I
COMPARISON OF GAINS IN TERMS OF AVERAGE STANDARD SCORES ON THE SIX STANDARD ACHIEVEMENT TESTS IN AMERICAN HISTORY FOR MATCHED AND UNMATCHED GROUPS, CITY AND COUNTY PUPILS COMBINED

Group	Mean Standard Score		Gain	P. E. Diff. of Means	Chances that Gain is significant
	First Testing	Second Testing			
1. UI+UII+UIII (unmatched)	-.050	.341	.391	.10	100 in 100
2. RI+RII+RIII (unmatched)028	.185	.157	.13	79 in 100
3. UI+UII+UIII (matched)	-.060	.325	.385	.12	98 in 100
4. RI+RII+RIII (matched)	-.060	.55	.115	.13	73 in 100

¹ An unpublished master's thesis at the University of Virginia, 1929.

² See Karl J. Holzinger. *Statistical Methods for Studies in Education*, pp. 118 ff.

According to these results, all pupils made significant learning gains during the period of instruction. If all pupils who were taught according to the two methods are involved in averages without eliminating any pupils for the purpose of equating groups, those taught according to the unit plan made approximately 2.5 times the amount of gain made by those taught according to the daily recitation plan. If only those pupils are considered who could be paired in the process of equating the groups, those taught according to the unit plan made an average gain 3.4 times as great as those taught according to the daily recitation plan.

We are interested, however, in the significance of the superiority of the gains shown for the U groups. This is shown by an examination of the facts below:

1. Difference between means of matched U and R groups, second testing..... —.270
2. P. E. Difference between means of unmatched U and R groups..... —.12
3. Ratio of difference between means to P. E. difference between means..... —2.25
4. Chances that superiority of gain of U group is significant..... —93.5 in 100

While all factors which might condition the outcomes of this experiment were not adequately controlled, we regard the results as very significant. The greatest weakness of the procedure unquestionably lies in the control of the influence of teaching. There is no certainty that the teachers in the county schools using the unit plan were equal

in teaching ability to those using the daily recitation plan.

The results, however, show superiority of gains for the unit plan for both county and city considered separately. In the city the same teacher used both plans and had a definite prejudice against the unit plan. The probability is that the superiority of the unit plan is underestimated by the results secured, for all teachers were using the unit plan for the first time.

1. Number in group — 67
2. Number in group — 62
3. Number in group — 50
4. Number in group — 50

In summary, we believe that perfection of the plan towards which we are working will:

1. Make it possible to broaden materially the training programs of small high schools without imposing excessively high instructional costs.
2. Make a good quality of secondary education available to isolated communities which have been neglected because of the impossibility of centralization.
3. Result in a more effective recognition of individual differences than is common in large schools depending upon homogeneous grouping.
4. Increase instructional efficiency in general through carrying into practice the current psychology of learning by substituting teaching for testing as the major classroom activity.

We advance the plan as a more effective solution of the instructional problem of the small high school than centralization and preferable to a policy of broadening training programs through the employment of more teachers and lowering pupil-teacher ratios.

ORFORD HIGH SCHOOL: AN ADVENTURE IN FAITH

GUY E. SPEARE

EDITOR'S NOTE: Mr. Speare is superintendent of schools, Plymouth, New Hampshire. His position carries with it the supervision of the training schools of Plymouth Normal School and participation in the Normal School faculty as a teacher of principles of teaching in elementary schools. As the placement of the senior students in the Normal School is practically entirely under Mr. Speare's jurisdiction, he is well qualified to describe the Orford situation.

D. I. M.

"I am as happy tonight as a king upon his throne—if a king is happy. Those royal English blunderers, the early Georges, granted overlapping charters and for a hundred years the sovereign States of Vermont and New Hampshire have had an ill-defined boundary line. Lawyers, courts, statesmen, and even judges of the nation's Supreme Court have tried and are still trying to locate this boundary line. The events of this evening, the first graduation of Orford High School, with a class almost equally divided between Orford, New Hampshire, and Fairlee, Vermont, and a church filled with friends who reside on either side of the river give the final answer to the question which the king's stupidity precipitated: There is no boundary line." Thus Commissioner Ernest W. Butterfield began his address at the first graduation of Orford High School.

It is a pleasant task to recount the story of the inception of this school, to connect its history with the linkage of the past, and to render due credit and praise to all whose courage and efforts converted dreams into reality.

The environment of Orford is historic. Nearly two hundred years ago a group of aristocratic families selected this site for their home. The broad, terraced meadows of the Connecticut

river are bounded on the west by the towering palisades which rise precipitously along the river bank. To the east, rolling foothills terminate in a bald granite peak called Mount Cube.

When Eleazar Wheelock came to build a school for the Indians, with his "Bible, gun, and five hundred gallons of New England rum," bitter was the disappointment of these Orford citizens, when regardless of their pleas, Hanover was chosen as the location of Dartmouth College. Stately white mansions of these families adorn the upper terrace, with elm-shaded drives, and expansive green lawns terminating with white fences along the village street. Some prophetic vision must have guided these town fathers in laying out their highways. No traffic will ever crowd their wide expanse, bordered by green lawns beneath whose double rows of elms and maples the path for pedestrians lies. The skill of the famous Bullfinch is said to have fashioned one of these lordly mansions, yet all are equally imposing and still occupied in summer by the descendants of the builders. Viewed from the Vermont shore the shapely spire of the village church, copied from Sir Christopher Wren, duplicates the famous engraving of Stratford-on-Avon for the admiring traveler.

No wheels of industry have ever disturbed this quiet village; even the railroad is built on the Vermont side of the Connecticut. Fittingly, a quaint covered bridge with weathered beams and rumbling floor bears the traffic over the stream. Into this setting of wide green meadows, elm-shaded streets, and picturesque homes the advancing tide of education made its way. About 1830 the citizens purchased shares in a two-story brick building christened Orford Academy. Years after a third story was added called Patterson Hall. At its greatest period of prosperity, this hall was used as a dormitory for boys and an adjoining frame building, tersely named the Boarding House, was the girls' dwelling.

In contrast to the present day with the school yard filled with many-colored automobiles, the beginning of a school year was characterized by a procession of farm wagons filled with furniture. Conspicuously displayed was the airtight stove for heating and cooking purposes since most of the boys brought their provisions and managed their sustenance from Monday to Friday night, when each returned home for replenishment of the larder. The commodious homes of the village were opened to those not accommodated in Patterson Hall, and it is reported that nearly one hundred fifty students patronized the Academy, varying in age from eleven years to grown men and women. Dartmouth College accepted graduates to its classic halls. Tuition was ten dollars per term and from this sum the principal received his salary and that of his assistants. For a period of

twenty years this Academy flourished, but after the Civil War its doors were closed and the academies of Thetford to the south and Bradford, Vermont, received all who desired higher education.

The usual story of the New England secondary school is the development of this academy into a public high school. After many of the shareholders of the brick building had passed away, the town acquired the remaining shares known to be existing by paying five hundred dollars to the village library, the shareholders agreeing to this arrangement. A graded school of elementary type has been maintained in the lower part of the building for many years.

In contrast to this quiet town, across the river the railroad has called a thriving village into being. Here is located a creamery for the collection and distribution of the milk produced by the prosperous farms along the river. Behind the palisades lies a beautiful lake surrounded with camps for boys and girls and hundreds of summer cottages. Fairlee is a community of shopkeepers, garages, and modern homes. The population of both villages is largely old New England stock with a sprinkling of those born on foreign soil.

Watching the diminishing numbers of students who sought higher education in other institutions of learning, the conception of a need for a high school was fittingly realized in the mind of a public-spirited woman. She mentioned her desire to the superintendent of schools. This superintendent was a man of pioneer spirit. His avocation was to tramp the hills with his favorite dog

in search of game. It was an easy matter to transfer this hunting instinct into human channels with the children of Orford as his incentive. At a school-board meeting in 1923 he mentioned the need of a high school. "A trip to the moon seemed about as possible to the board," he says in his story of that meeting. Soon after the public-spirited woman was elected to the school board. She knew the cost of sending a child to another town; the clothes, books, and transportation. She knew that in several cases the experiment had not proved a success to the morals of the children. She began a campaign among the townspeople, to be told in one case that the idea was the silliest thing this woman had ever been known to undertake.

A strong business man across the river became interested. He interested other influential residents of both towns, and gradually enthusiasm to open a high school grew in the minds of the residents of both Fairlee and Orford.

Meanwhile, Superintendent William J. Nelson had been consulting the Commissioner of Education in New Hampshire, Ernest W. Butterfield. Dr. Butterfield found a way.

The three- and four-year students of Plymouth Normal School needed facilities for teacher training in high-school subjects. Dr. Ernest L. Silver, president of the Normal School, devised a plan for coöperation with the Orford situation. A meeting was arranged with Dr. Butterfield, Dr. Silver, and the the Orford school board as participants. Only those who know the psy-

chology of a small New England town can imagine the consternation of the citizens when expense and taxes are discussed. Some people who possess no children are always adverse to expensive changes in school equipment and Orford was no exception to the general public. But time showed confidence in the assurance of the public in the word of the superintendent and his influence had weight in overcoming the opposition.

Three years after Superintendent Nelson had suggested to the school board that a high school was needed, an article appeared in the warrant of the annual school meeting in the spring of 1926. Democracy, pure and undefiled, reigns in New England towns. This March meeting demonstrated this fact. Dr. Silver and Superintendent Nelson will not soon forget their four hours of sleigh ride over the windy stretches of the drifted highway between Wentworth and Orford over Mount Cube. The storm was so severe that doubt was felt concerning the attendance at the school meeting. Storms do not arrest public interest, the voters were present *en masse*. Doubts of the outcome were in the minds of the friends of the proposition but the pleasing discussion of the problem and wise explanation of the proposed plans by Dr. Silver won the confidence of the voters and the opposition was hushed to silence. When the matter was left to a finance committee appointed by the voters, the cause was won. Elated by the success of the meeting, the school board ventured to ask for a larger sum than at first intended for repairs on the old academy building and the voters again responded to

their suggestions. Thus the people of Orford solved their problem of higher education for their boys and girls without the opposition of one voter and with enthusiasm for the new project.

A contract was drawn by which Orford furnishes the building, furniture, janitor, light, and heat, and in addition pays \$85.00 per capita tuition for each child. The State of New Hampshire furnishes instruction, instructional supplies such as books, paper, etc., and general supervision. A competent headmaster was promised.

During the summer months much remained to be done. The town repaired and refurnished the first floor of the building for the high school and arranged new rooms for the elementary grades elsewhere.

The school board and superintendent busily visited the homes of prospective pupils in both Fairlee and Orford. None of those already attending other institutions was encouraged to desert them, yet when the school opened in September, eight sophomores transferred to the new school and ten freshmen added their enthusiasm to the enterprise.

The all important factor was the teaching staff. Miss Gladys Twitchell had been performing a significant educational task in a small secondary school in North Woodstock, N. H., with problems typical to those of Orford. She contributed to the undertaking maturity, judgment, experience, culture, and a sympathetic understanding of young people.

She is ideally fitted for the double duty of guiding adolescent pupils and

acting as critic teacher and matron for the young women students from Plymouth Normal School who supply the teaching staff of this high school. She is a graduate of Farmington Normal School and of Colby College in Maine, and is a constant summer attendant at Columbia University.

She was no sooner chosen than she began to serve. She carefully laid her plans. A few days before the school opened, she met many of her prospective pupils and, says a member of the school board, "by her sincere and tactful manner she won the esteem of the pupils and made them anxious to begin school."

"Well begun is half done." Three student teachers from the three- and four-year courses were sent from Plymouth Normal School to complete the staff for the first year. This number has been increased to five students who are each employed a half year when five others take their places. They assume responsibility from the start of the school year, doing practically all the teaching with occasional classes taught by Miss Twitchell. All the work is planned by personal conferences between critic and student teachers and the latter are held responsible for thoroughness and mastery. Thus is developed initiative and ability to teach. The situation is not unlike the small high schools of the State where tenure is ordinarily brief, frequently with unskilled beginners in the majority of the staff. The shorter tenure at Orford is compensated by the wise supervision of the headmaster, superintendent, and Normal School president with close

watch by the State Department of Education at Concord. The student teachers are carefully selected at the Normal School. One student teacher expressed the spirit of these young women by saying that the professional service rendered was better than any salary they might receive. The ten students engaged at Orford during 1928-1929 are employed in responsible secondary positions in the State with the exception of one who is serving capably as a critic teacher in the junior high school at Plymouth. Expressions of approval are frequently heard not only in Orford but in the twin town across the river, for the excellence of the work of the student teachers. Thus is laid to rest the bugbear of the evils of a teacher-training situation. When the New Hampshire legislature at its last session threatened to abolish the four-year normal-school courses, the communities of Fairlee and Orford were loud in their expression of fear lest such a disaster should fall upon their prosperous high school. So great is the success of this unique experiment.

The community has not been lacking in expressions of appreciation. The teachers are adopted into the community life. Entertainments given by friends of the school have furnished a piano, athletic equipment, and a baseball field. A live Parent Teachers' Association is working for better physical equipment, the Woman's Club and summer camps have added financial aid. In very truth the old academy has become a real community center with a forum for the interchange of thought.

One might expect an agricultural

course in such a high school. Not so in Orford. The present superintendent, Mr. E. A. Janes, says there is not sufficient demand for such a course. The community demands a cultural education for its children. Three curricula are offered. Latin may be carried four years as a preparation for the liberal-arts college. A so-called English course does a double duty, preparing adequately for college through an offering of French and mathematics, and by a liberal elective system flexibly adapted to individual differences. The third curriculum is commercial, offering shorthand, typewriting, and business practice. English is obligatory throughout the four years, likewise three years of history: history of civilization, then modern European and last United States Constitutional history. Chemistry is studied by all the pupils. Economics, industrial geography, general science, bookkeeping, and sociology complete the curriculum. Doubtless response to other community needs will be developed but the present curriculum is typical of the small high schools of the State and offers training in the branches which the student teachers will find desirable.

The methods of instruction are conservatively progressive, through child-centered procedure. Small classes have made group projects possible. Socialized recitations are frequent. Pupil purpose is fostered and each child is guided to an understanding of his school job. Dramatics, school socials, and a newspaper are among the entertainment features which have so guided the morale of the pupils that discipline as

usually understood in a small town is not one of the problems of the school.

Those persons who believe that the youth of today is not as in the good old times should visit Orford High School. Three boys travel twelve miles daily from the sides of Mount Cube and during last winter lost but two days' attendance because of the hindrance of blizzards. The names on the register indicate the origin of the population with Bean and Titus and Eton conspicuously exposed, and a few French Canadians and Italians to add piquancy. It is almost a homogeneous Connecticut Valley stock of the older order. The pupils come from the near-by towns on both sides of the river. Fairlee furnishes thirteen and Orford nineteen of the total enrollment of forty-six divided evenly between boys and girls. Intelligence tests show them to be a typical group with the usual range from slow to fast learners. One girl who graduated last June was conspicuously high in mental ability.

Although little standardized test data are available, there are sufficient proofs of the success of the school. Its holding power has been amply demonstrated. Only two pupils have ever left from lack of interest. Three have removed to other schools. One girl has entered hospital training after two years of high-school study. It is certain that the number of children now in high school is at least twice as great as in the days before the establishment of this community institution. Especially illuminating is the case of one boy who had failed completely in two larger high schools. Being persuaded to at-

tend Orford, he found himself and last year graduated creditably. This year he has returned for postgraduate study to fit himself more thoroughly for an engineering school. Five out of the other seven graduates of last June have entered postsecondary institutions. One girl has chosen her vocation as a beauty specialist. The remaining boy has started a career in a garage. Evidently the school has succeeded scholastically. It is a going concern already taken for granted in the community, but none the less cherished with kindly solicitude.

This particular plan, united with teacher training, is especially adaptable to New Hampshire, a small compact State with excellent normal schools and general public confidence in the supervisory system. Other schools of the same sort have been established at Dalton, Hampstead, and Ackworth. It is significant that Superintendent Nelson has been greatly instrumental in the inception of the new school in his present field of work in Hampstead.

But let no one think there is nothing typical in this Orford experience. In the first place both Orford and Fairlee were activated not by desire to save money but to serve their children. It is doubtful if the plan does accomplish any economic saving. The motivation was in the hearts of the people. The Normal School came with a happy solution. This failing, some other way would have been inevitable. This particular arrangement is not at all essential. Other means may be found. The lesson is that the small community, somewhat isolated though it be, is self-contained and self-sufficient. It has its

responsible members of foresight and acumen. Granted that its school-board members have vision, and that its superintendent of schools is a man of faith, the whole community can be energized, and galvanized to action. Too proud to bemoan its poverty, too self-reliant to wait for outside assistance, it will meet the issue squarely and exemplify the old motto, "Do it yourself."

Orford and Fairlee, typical and normal, can say, "Lo, it is done."

The small local high school is of inestimable value. It is adaptable to community needs, it saves, it educates the children who otherwise would fail of schooling beyond the elementary grades. It is the community's finest industry. It conserves the best local tradition and fosters the finest local pride.

And it can be done.

EXTRACURRICULAR ACTIVITIES IN A NORTH CAROLINA RURAL HIGH SCHOOL

L. W. UMSTEAD AND E. M. THOMPSON

EDITOR'S NOTE: *Mr. Umstead is supervising principal of a rural-school unit in Wake County, North Carolina. This unit consists of the Garner High School and three elementary schools, the graduates from which go to the high school at Garner. Mr. E. M. Thompson, principal of the Garner High School, has coöperated with Mr. Umstead in the following article.*

D. I. M.

In undertaking a consideration of any phase of education we should see what relation it has to the big aim of education. According to the modern conception the general aim of education is to fit the individual for proper adjustment in society. Dr. Thomas H. Briggs says, "The first duty of education is to teach people to do better the desirable things that they are going to do anyway. Another duty is to reveal higher types of activities and to make them both desired and to an extent possible."¹ Fretwell in his foreword to Roamer and Allen's volume on extracurricular activities says, "The school's business is to enable the pupil to have the desire, the drive, and the ability to perform worth-while activities for himself, for his community, and for the

state. . . . To attain these results it is necessary to use the whole school situation; organization administration, subject-matter content, method of teaching, and the school's extracurricular activities."²

Once it was generally thought that knowledge was synonymous with education; a person who had a great accumulation of facts was educated. This idea had its beginning before printing became common.

Books were so scarce that information had to be memorized by the student. The idea that a volume of facts, or information, constitutes education has been handed down to us, and, today, we have people who hold to this conception. Another and a more modern theory of education is that what the

¹ Taken from a quotation of Harry C. McKown, *Extracurricular Activities*, (New York: The Macmillan Company, 1927.)

² Elbert K. Fretwell, foreword to *Extracurricular Activities* by Joseph Roamer and Charles Forrest Allen, (Boston: D. C. Heath and Company, 1926.)

individual does is at least as important as what he knows. The fact that one has a great body of information at his command does not mean that he will act according to this information. He must be taught to act properly. He must form the proper habits. Habits are made only through practice. One must have practice in making proper actions.

The world needs men and women who are emotionally safe. To amass a volume of information is not sufficient. To have a powerful intellect is not sufficient. What assurance do we have that this information and mental capacity will be directed in the right direction in an emergency? Social behavior is governed by emotional training. This is a day of action, but action unguided by the proper emotional training may lead to riot and revolution. The value of mental capacity is appreciated, but emotional training must also be emphasized. It takes social contact to mold character. Dewey says, "Children in school must be allowed freedom to develop active qualities of initiative, independence, and resourcefulness, before the abuses and failures of democracy will disappear."³

We acquire habits by practice. "Actual practice in meeting the demands of society is required of our boys and girls in their relationships on the playgrounds, in clubs, in assemblies, at games, and in their interschool contests. It is only by such practice that our future citizens can be expected to react

correctly in social crises."⁴ Behavior is more evident and more dangerous than knowledge, and society is demanding that we give boys and girls the type of training that will enable them to adjust themselves. The bookworm, or recluse, is a misfit. Students of our school must learn to live among their fellowmen.

On the ground that they give opportunity for practice in making the correct action and forming the desired habits we justify extracurricular activities in the school program. Just what do we include in this group of activities? Briggs says, "Extracurricular activities are those legitimate activities not provided for in the curriculum."⁵ We shall accept this as a working definition. When the individual leaves school he should be able to take his place as a contributing, coöperating, social being. By working along the lines of the student's interests while he is in school, we hope that he will awake to his greater possibilities.

The place of extracurricular activities in the school program is being recognized by the rural high schools of North Carolina. Compared with some of the larger city high schools they have barely scratched the surface, but the average North Carolina rural high school as we know it today is a new institution. In many instances large consolidated high schools are found where five or six years ago high-school work had never been offered. In other cases

⁴ Franklin S. Lamar, *Proceedings, National Education Association*, LXII, 1925, pp. 609-614.

⁵ Thomas H. Briggs, "Extracurricular Activities in Junior High Schools," *Educational Administration and Supervision*, VIII, January, 1922.

³ William Heard Kilpatrick, *Source Book in the Philosophy of Education*, (New York: The Macmillan Company, 1926,) p. 141. The original source not given.

consolidated high schools of from two hundred to three hundred students have replaced the small town and village high schools that had from twenty-five to seventy-five students. Necessarily, programs of extracurricular activities in such a situation are innovations.

One of the authors recently made a study covering 401 of the approximately 500 standard rural high schools in North Carolina and found that the rural high schools range in enrollment from 50 to over 300. The faculties range from three to twelve. This study revealed that many of these schools are introducing creditable programs of extracurricular activities. Thirty-six of the schools studied had regularly scheduled activity periods ranging from 75 to 225 minutes per week. Seventeen of the high schools had physical-education periods ranging from 75 to 375 minutes per week. Eight or more clubs each were reported by twelve of the schools. Several of the schools engaged in five or more sports. This group of schools published six magazines and fifty-five school papers. Many others had spaces in local or county papers. In general we may say that the rural high schools of North Carolina have at least made a strong beginning in the field of extracurricular activities. We shall now consider the program in one North Carolina rural consolidated high school.

The present program of extracurricular activities in Garner High School may be said to have been four years in reaching its present development. Four years ago, when we began working towards our present program this

high school enrolled 116 students. At that time about twenty-five per cent of the students came to school in public conveyances and about another twenty-five per cent came in private cars. There were five high-school teachers, including the principal who was also principal of the elementary school. Extracurricular activities were limited to occasional class meetings, commencement recitations and declamations, a quarterly newspaper published by the members of the senior class, baseball and basketball. At that time there existed in this high school what might be called a "teacher *versus* student" attitude on the part of the student body. This we recognized as our first big problem.

We began consciously to work to overcome this hostile attitude of the student body. We appointed committees of students to study school problems and otherwise gave students responsibility when possible. During the first year two literary societies were organized. Early in the second year a program of physical education was undertaken. Physical education was required of everybody except those "out for" teams. Near the middle of the second year a Hi-Y club was organized. This organization did a great deal to improve the general morale of the school. At the beginning of the third year it was decided to abandon the literary societies, which had been required of everybody, and organize several clubs based on the interest of the students. No student was forced to join any club against his will. Regular class work was suspended at certain

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periods in order for the clubs to meet. About a year ago, near the beginning of the fourth year, a special period was set aside each day for club activities. During this four-year period we have consciously avoided the monitorial system of discipline. No special privileges have been extended the senior class or any other group of students. Student attention has been directed to the opportunity for service. We have at all times made an effort to substitute service for hazing.

At the present time Garner High school enrolls 240 students. Approximately 85 per cent of these are transported in busses. Eight high-school teachers are employed. Each teacher is sponsor of one or more extracurricular activities. Vocational agriculture and home economics have been added to the courses of study offered by the school. About one half of the sixteen units required for graduation are elective.

At present a school day to the average student of Garner High School means more than four lessons. Students participate in all phases of school work. There is a student advisory committee which officially represents the student body. This committee consists of the president of the student body and two representatives from each home room. General school problems are taken up with this committee, and it makes recommendations to the student body. This type of student participation is new, but it seems to have unlimited possibilities. We expect it to be of service in promoting honesty among the students. We have a modified honor system. Students are put on their honor only in so far as it is educational.

Clubs meet three days each week at the activity period. One period per week is devoted to assembly. On Wednesday we have what is known as an "open" period. At this time committees and miscellaneous organizations meet. At this period students may practise for teams. Classes have meetings, assembly programs are rehearsed, and conferences are held between students and teachers during this period. On Monday the Hi-Y and Girl Reserve Clubs meet at the activity period. Assembly is held at the activity period on Tuesday. The period on Wednesday is known as the "open period." On Thursday the Dramatics Club, Science Club, Home-Economics Club, and Young Tar Heel Farmers Club meet. The Glee Club and Band meet on Friday at the activity period. Practice in athletics takes place at the physical-education period, which comes just before the activity period. This allows the activity period on Wednesday to be used for athletics.

During last year the students of Garner High School participated in five sports; namely, football, basketball, wrestling, track, and baseball. Monograms are given the students who participate in each sport. In order to represent the school on an athletic team the student must meet certain requirements. The principal of these requirements is that he must be passing at least three regularly organized courses. Four courses is the normal amount for a student.

The *Garner Hi News*, a school newspaper, is published quarterly. This is sponsored by the senior English classes. The paper represents the entire high

school, and contributions are solicited from all high-school students. Not only school news, but anything outstanding of a literary nature as well is published in this paper. Each year the paper has been entirely self-supporting from a financial standpoint.

Five medals are offered annually by the friends and patrons of the school. Three of these are offered for excellence in public speaking, one goes to the student making the highest scholastic grades for the year, and the service medal, which is offered by the local Hi-Y club goes to the high-school boy voted by the student body to be the best school citizen. Each of these medals has been offered for a number of years, and they do much to hold up standards in their respective fields.

Social activities in the form of receptions, parties, and picnics are encouraged and supervised. At least one faculty member attends each social gathering held under the auspices of the school. Social activities held in private homes are not sponsored by the school. All strictly school parties and receptions are held in the school building.

We believe that the results of the extracurricular-activity program of this school can be summed up in the following manner: first, the "teacher *versus* student" attitude has to a large extent been eliminated; second, there is an increased interest in all phases of school work on the part of the student body; third, the community has shown an increase in its respect for the school and its work; fourth, it has been an important factor in the democratic type of education that we are attempting to offer to our boys and girls.

We realize that our program of extracurricular activities is far from perfect, and that there are several changes that should be made. Our present schedule is not sufficient to take care of home-room meetings. These periods should be arranged so that all sections of grades could meet together for their various meetings. Only certain literary medals, monograms for athletics, and a service medal to the boy who is judged by the entire student body to be the best high-school citizen are offered. We look forward to instituting a general point system by which the students' accomplishments in all school activities will be credited.

The following suggestions are offered to those who are considering the organization of a program of extracurricular activities:

1. The most important thing to be considered is that the program should be the outgrowth of the needs of the school.
2. The program should be administered on an elective basis. No student should be forced to participate in any activity.
3. The sponsor for each club should be carefully selected according to his or her interests and abilities.
4. All social meetings of each activity should have constructive supervision.
5. In introducing such a program, it should have considerable emphasis and close supervision in the beginning. Do not expect a program of extracurricular activities to work smoothly at first; remember it is a new type of work for students.

PHYSICAL EDUCATION IN SMALL HIGH SCHOOLS

JAY B. NASH

EDITOR'S NOTE: *Dr. Nash is professor of physical education at New York University and one of the associate editors of the CLEARING HOUSE. He believes that there is the same need for a physical-education and health program in the small high school as in the large and for the same reasons. He maintains that physical education will be successful only when it helps the individual to do better the things he wants to do.*

F. E. L.

Do boys and girls in small high schools need the activities of a health- and physical-education program?

The answer to this question would possibly be "no" if *physical education* is to be considered synonymous with the word *exercise*. In other words, if the content of a physical-education program is merely a "setting-up" exercise program, given by the history or mathematics teacher who happens to have a free period, then one would say immediately, "It is not needed." If the content of physical education is to be merely an athletic program controlled by the boosters' club of the community and used to advertise the school and to bring the football coach or the principal prominently in touch with the scratch of the reporter's pen and the camera, it is not needed.

It would probably be safe to say that most of the present program of health and physical education which is being conducted by the small high schools is not of high educational value. As a matter of fact, probably many of them are a positive detriment to the health and well-being of children. If, on the other hand, the content of a health- and physical-education program is in line with the best conduct in the country at large, then the answer would be distinctly that the *boys and girls of small high schools do need it*. In order to

determine to what extent the activities of such a program are needed, it will be necessary to set forth briefly an interpretation of physical education. What objectives are attainable in the lives of children through participation in physical-education activities? In other words, what is physical education?

This question cannot be considered wholly in the light of *physical* activities for the simple reason that it is impossible to consider the physical aspect of any activity without at the same time considering the mental aspect of the activity. In fact, there is no such thing as an isolated physical activity or an isolated mental activity. There are only activities which have both mental and physical aspects. Some activities may be high on the physical scale in that they require a great deal of big-muscle activity—other activities may be low in the physical scale and they require only a very small amount of big-muscle activity. Activities, also, may be very high on the mental scale in that they require the individual to draw upon his associated memory in order to solve problems; or on the other hand, it may be very low on the mental scale where the activity is largely on a reflex basis.

Hence, activities which are usually considered "physical-education activities" may have high mental content. Consider a boy standing "at bat" wait-

ing for a ball. He is, at that particular moment, engaged in a limited amount of big-muscle activity but he is doing a high grade of interpretive thinking as he attempts to solve the course of the ball which is being pitched to him. He is thinking high-low, wide-close, slow-fast, straight-curve. In addition to this, he is interpreting what he can do in the light of the ball, the position of the basemen, the position of the fielders, the distance to first base, etc. He is actually doing interpretive thinking which is of value. Hence, in this article when the word "activity" is used, the assumption is that it is used in the duo-sense; namely, as a menti-motor process. Physical education can never be understood unless the sharp difference between mental and physical is obliterated.

WHAT IS PHYSICAL EDUCATION?

Physical education is an administrative arm of education which organizes and conducts activities which are high on the big-muscle scale. In other words, it organizes and conducts those activities which go on in connection with the gymnasiums, swimming pools, playgrounds, the back lots, the camps. These are the natural activities of the new physical education of the school. They are the natural physical-education activities which a few years ago were conducted in the home and in community life outside of the school. These activities have been resurrected, elaborated, and organized by the school in order to meet the needs of the child in education under present-day cramped social conditions.

There are, of course, in addition to these natural activities other activities such as gymnastic drills and exercises. They still have a possible place as bad-weather activities or supplementary activities under cramped conditions of space. They have some place possibly as corrective exercises where children have failed to secure normal development because of inadequate experience. All of these activities are termed big-muscle activities merely as a convenient way of distinguishing them from the tool subjects, the manual activities and the social-science activities, musical activities, etc.

Why does the boy and girl in a small rural high school need these activities? It may be said that social conditions are not as cramped as in large cities. There is yet a great amount of walking and chores about the farm and the home. It may be well in this connection to know that the physical condition of children in the rural districts is on a decidedly lower plane today than that of the children of the cities. This is set forth in connection with the research of the Joint Committee on Health Problems in Education, National Education Association.¹

In comparing some of the major health deficiencies, the following are listed:

Teeth defects	
Country children—	48.8%
City children—	33.58%
Tonsil defects	
Country children—	28.14%
City children—	16.42%
Adenoid defects	
Country children—	23.4%
City children—	12.5%

¹ *Health Essentials for Rural School Children.*

Ear defects

Country children—21%

City children—13.4%

Malnutrition

Country children—16.6%

City children—7.6%

The same ratios hold more or less true for enlarged glands, ear defects, defective breath, spinal curvature, anemia, lung defects, heart defects. Whether or not the children of the country deserve education in connection with the removal of these physical handicaps that is now being given city children will help to answer the question asked in the beginning of this article.

Before further comparing the needs of the rural children with the needs of the city children, it may be well to analyze the objectives of physical education. In the light of these objectives the answer to the question of the physical-education needs of the rural child may well be determined. Briefly, physical education as an administrative arm in education has certain specific objectives. These objectives may be listed as follows:

- Development of organic power
- Development of menti-motor power
- Development of impulses
- Development of judgments
- Establishing proper standards of behavior

These specific types of development and standards can be briefly described as follows:

Development of organic power: Organic power is probably best illustrated in what we call "endurance" or "vitality." It means simply the power to expend great energy and to withstand fa-

tigue. This organic power is tremendously needed today. It is a matter of common knowledge that many of the men in positions of great responsibility at the present day obtained their organic power or endurance in the big-muscle activities on the farm. More and more there is a strain upon the nervous system. There is the hurry and worry of business life. If men are to stand up under this strain there must be built up through big-muscle activity—playground activities—during childhood and youth, great organic capacity.

While farm life tends to supply activities which give organic capacity, the benefit is many times offset by devitalizing drains which cut drain power. A balanced health- and physical-education program would preserve for the country boy these great advantages of the natural rural and small community life.

Menti-motor development: In play activities menti-motor power is developed. This means simply that the latent powers in the neuro-muscular mechanism, called strength and skill, are developed; and that millions of nerve cells are brought into functional activity under the control of will. This power is greatly needed today in connection with the varied and highly mechanical life that we live. Capacity for quick responses built up on the athletic field or in simpler games may save a life in the crowded traffic or prevent accidents in connection with our modern factory system. The boy in the small high school has experiences in the slower muscular movement but has great need for the coördinations and skills of the smaller muscles. Its benefit

is seen in the posture and poise so lacking in the rural boy.

Development of the impulses: In the games of childhood and youth the most powerful impulse tendencies of human nature are exercised. Character traits are developed. In the social situation surrounding the game the temptation may be strong to be unsportsmanlike and violate the rules for the sake of winning, if good leadership is lacking. Probably the first time a child distinguishes right from wrong is when other children point at him and say, "You didn't play fair." Physical-education activities offer a tremendous range of opportunities for guiding the development of the impulses in an approved direction. The country boy needs most of all in physical education this experience of teamwork. In the games of the athletic field this may well be experienced.

Development of judgments: In no phase of education is it necessary to think situations and to will coördinations so rapidly as in physical-education activities. Judgment is necessary. Action must be instantaneous. A slight error in judgment is fatal to the individual or to his team. The entire being of the player is set upon making a good showing for his team-mates. He thinks because thinking is imperative in play to do his best.

Development of standards: "The play standards built through interest in activities are vital to the life of the child." The child wants to do them. The youth enters into the physical-education activities; namely, a game of

baseball, or a tag game, because of a want, a drive, a hunger which is impelling. Only when there is such an impelling hunger is it possible to establish standards or rules and regulations in regard to conduct.

Animals are usually trained under the whip of the food hunger. Probably in the past most individuals of the human race have been trained under the whip of the food hunger. In fact, many of us remember how that whip was used to enforce the health habit of eating vegetables before we came to the time of dessert. Modern standards do not sanction the use of the hunger whip in the education of children. We have, however, in the activity drive a powerful whip. Children want to participate in big-muscle activities, therefore, upon this "want" we can build standards.

Standards of health and citizenship based upon "wants": Any real standards of health or citizenship must eventually be based upon what the individual wants to do. The individual may know all the rules relative to good citizenship and yet not want to be a good citizen. It must be the popular thing to be a good citizen. It must be in vogue. It must be sanctioned by the group. It must be the thing which is done in the world of action.

Likewise in health any standard must be placed upon the individual's want. The school plant may be a model of perfection from the standpoint of sanitation. The community may have perfect health protection in the way of sanitary laws. Health examinations may be given monthly, and hygiene may be taught daily. But if the individual

does not want to profit by these advantages, all the effort has been in vain. We have to hold out to the school boy and girl three rewards for following health procedure.

(a) Absence of pain: This has never been a strong motive power, as has been proved in many instances where individuals know perfectly well the things that are best for them and do not follow them.

(b) The joy that comes from the feeling of elation, or feeling fine: This is entirely too philosophical for the motive power for action for children.

(c) Help in doing the things the individual wants: This is the real motive power. If the individual feels that keeping health rules will help him to do the thing he wants to do, he will keep them. That is the reason why the heart of health education lies in the physical-education program. It is the game the boy wants to participate in. He is willing to train to keep fit to be a member of a team, and upon this basis the individual learns that health rules help.

The game of life gradually takes the place of the game of football, or the game of baseball, and membership in this big team depends upon ability to do things. Health rules then become basic. Organic capacity for health is built in activity. Willingness to follow health rules comes from the feeling that

such rules help the individual to do the thing he wants to do. Standards cannot be built by compulsion, they cannot be built through fear—you cannot make effective an organization for the compulsory enforcement of good fellowship. Good fellowship must be a by-product, and standards must be by-products—they must be built around "wants."

After an organic capacity has been built children may not choose to follow health rules. The desire to follow health rules must have its mainspring in the assurance that it will aid children in doing the things *they want to do*.

Our task, then, is to discover the wants of children and build upon them. The tremendous responsibility which is placed on the physical-education profession here is that most of the wants of children center around the big-muscle type of activities. Therefore, the responsibility to a large extent of building standards of manners, morals, citizenship, character, and health center in our profession.

The small high school needs a program of health and physical education just as the large high school does, and for the same reasons. The directors of such programs should know the objectives of a real program of health and physical education in the lives of children. Once realizing the objectives, questions of program, time, space, and method are easily solved.

A CENTURY OF LABORATORY SCHOOLS

H. H. RYAN

EDITOR'S NOTE: *Dr. Ryan is principal of the University of Minnesota High School and an associate editor of the CLEARING HOUSE. He was formerly principal of Blewett Junior High School of St. Louis, and the University of Michigan High School. The present article is an excerpt from an extensive study which Dr. Ryan made of the evolution of the laboratory school in the United States. We plan to publish other portions of his study in subsequent issues of the CLEARING HOUSE.*

F. E. L.

In the beginning our laboratory schools set out with the determination to be the best possible schools; this achievement they desired in order that all who came might see how the thing should be done, might take notes, and then might go away and do likewise. For a time they held fast to this ambition. During the Civil War period of depression, however, their sensibilities were dulled; they came to be content with offering opportunity for practice, with exemplifying certain theories of instruction, and with maintaining a hazardous existence in the face of the odds. Now we find them again striving for institutional good name; not that they may be "model schools," but because of professional pride, because in this day of good schools they cannot otherwise command a patronage, and because it is silly to expect to train good teachers in a school that is anything but good.

At first the laboratory school was an integral part of the teacher-training institution. Later we see it as a co-operating school or an affiliated school, under the control of other authorities. Now the control has swung back and the representative laboratory school is again a part of the organization.

At the outset the laboratory school was an essential, perhaps even the central, feature of the teacher-training institution. After a short period in this

eminence it began to drop into the background. Perhaps this was because the imported methods and the Minerva-like methods of the early pedagogues turned out to be less potent than expected; perhaps it was because the Civil War and its forecast shadows curtailed all constructive effort. Then, in the seventies, the belated waves of Pestalozzian and Herbartian influence struck the country, and the laboratory school blossomed again under the benign influence of the fact that here were again some definite methods to be taught to new teachers and to be exemplified for them. An added impetus was given to the movement by the introduction of professional training for secondary-school teachers. Finally, before this wave could fade away, scientific methods of educational experimentation made their appearance and gave the laboratory school what may turn out to be everlasting life. Now is the heyday of its existence thus far.

Thus we see three contemporaneous cycles in the life of our laboratory school. It has somehow returned to the starting point in the nature and intensity of its ambition, in its organizational relation to the teacher-training institution, and in its importance. Nevertheless, it returns a totally different thing. It no longer tries to perfect the student in a mechanized procedure, but strives to

make him professionally intelligent. It no longer constructs its procedure from borrowed methods and untried imaginings, but subjects its theories to scientific investigation. It no longer sets the untried student at the helm of the ship, to sail to port or to go down with all on board, but permits him to "participate" to the extent of his development,

to the better health of crew and passengers.

So in many institutions it is now a true analogy to say that as the botany department has its conservatory, the physics department its laboratory, and the medical school its hospital, so the school of education has its laboratory school.

AN ADVENTURE IN EDUCATION

R. G. REYNOLDS

EDITOR'S NOTE: *We have heard much of curriculum reorganization, but in many cases the new has been simply a redressing of the old and in many cases the new attire has been largely patches. Under the leadership of Dr. Reynolds, Horace Mann seems to be attempting a real reorganization of its curriculum, as this article indicates, and our readers will wish to hear of the results at a later date.*

F. E. L.

The Horace Mann High School for Girls is restricted in its curriculum building by the requirements of women's colleges. This statement needs no explanation for those schools who are preparing girls for college.

These requirements, however, need not be worried about overmuch until the ninth year. The seventh and eighth year of the junior high school do not, fortunately, feel this pressure of college entrance. This then is a time to go adventuring and this is what the Horace Mann School in its seventh year is proposing to do.

At the request of the Editor, a brief description of this adventure in education is presented. The description is not scientific; most adventures are not. The journey is scarce two weeks old at this writing, so the reader must not look for results. Perhaps what is presented can be likened to a prospectus of a travel tour. What each traveler will get out of it cannot be determined in advance; only the general itinerary, the

mode of travel, and points of hoped-for interest can be set forth. Indeed, like many travel prospectuses, it may be overcolored and the reality of experience may not reach the heights of anticipation. Time will tell.

Well, at any rate, there are forty of them, seventh-grade girls, launched on an adventure in education and the prospectus reads like this:

Party: Forty American girls, rather highly selected as to mental ability, with a family background of culture and education which should give them a zest for almost any kind of educational adventure, brought up together in an elementary school which has developed at the same time group participation and individual initiative; full of the joy of living, they are endowed with the mental curiosity of normal youth.

Accommodations: A fine big room, to start with only equipped with tables and chairs for work, tablet armchairs for conference, a steel filing case for each girl, empty bookshelves, a piano, and a teacher's desk. How the room will look at the end of the trip, what comforts and tools the voyagers will provide for themselves as they journey, that is to be part of the adventure. One can hardly provide in advance for more than the bare necessities. One of the

benefits of adventuring is discovering what and how to provide those things which make the journey comfortable and the traveling efficient.

Attendants: These are trained in educational journeying and traveling with eleven and twelve year olds, though it must be admitted that no one of the attendants has taken this particular journey before. Lands strange to them are ahead; they, like the passengers, will have to plan and provide as they travel. It should be said that the attendants have been chosen because they are at heart adventurers; daring, but wise and sagacious; adaptable to conditions as they arise and possessed of much imagination, much common sense, and a passion for hard work. It is well, for the journey will doubtless require all these qualities. Good navigators these are, too, able to tack, sail before the wind, reverse their course if need be, but withal to bear steadily towards a goal.

The Cuisine: Food is important on a voyage. Some of it will be taken aboard at the start, much of it will be picked up along the way. It will be substantial but appetizing. Its choice will be determined by its suitability to the passengers, not to the cooks. There will be *table d'hôte* and *a la carte*. A good solid basis will be provided and required; beyond that, individual taste will be allowed to determine the selection. The larder will be plentiful; differences in appetites and abilities to assimilate will be provided for; it is hoped that tastiness and personal selection will promote good digestion. Meals will not be hurried. Time to eat and leisure to digest should promote growth. Music will be provided with the meals. Happiness always helps. The attendants will be ready to advise in the selection of meals. It is hoped that this will prevent indigestion.

Entertainment: Much entertainment will be provided for on the trip but most of this will be furnished by the passengers themselves. Sports and games will be provided; the ship's swimming pool will be available; a ship's orchestra will be formed; movies in the cabin; no doubt the passengers will want to form a dramatic troupe. The ship's kitchen and even the carpenter shop will be open to the passengers. This ship, like others, will have a ship's newspaper, and all ships have dances.

Ports of Call: These cannot be determined in advance. The destination of the cruise is "The Land of Anywhere or Everywhere." Where we shall stop will be determined by the passengers largely.

But enough of this symbolism. The seventh-year girls of the Horace Mann School are going to make for themselves, guided by their teachers, a curriculum this year. English, mathematics, and French are to be the only organized "courses." Skills in these fields are to be sought for and required. As for the rest, "The Story of Man" is to be the theme for the year's work, in its many phases, the particular phases to be chosen by the girls themselves.

How Man has built his shelter (cave to skyscraper)

How Man has kept his records (hieroglyphic to modern newspaper)

Man and his music (tom-tom to symphonic orchestra)

Man moves (all fours to man-made wings)

Man communicates (from a whisper to his mate to a radio whisper circling the globe)

Man learns (the cave man teaching his son to 26,000,000 children in America's public schools)

And so on. A journey to everywhere, learning about anything, mathematics, music, language, literature, art, history, geography, civics, reading, composition, cooking—all these things which we call school subjects—they will come in, woven about a theme vitalized by a real interest. Not learned and memorized because the teacher requires it, or because the girls want to be promoted or in order that they may get "marks," but lived, experienced, pursued for the joy of it and spurred on by a mutual curiosity inherent in every child.

Does it sound as though there were no plan? There is one. A group of

five teachers to plan, or follow, as seems wisest. A guiding teacher always with the group who experiences it all along with them. Many other teachers called in when the interests of the group require his or her help—home-making teachers, history teachers, art teachers, music teachers, geography teachers, librarians, etc.

Certain periods of time for organized acquiring of fundamental skills and facts, English, mathematics, French; certain periods of time for work on the themes that are of uppermost interest; provision for seeing an interest through to a satisfying conclusion; certain periods of time for consultation with teachers of special subjects; the forming of small groups of girls with a common interest to follow through; a care-

ful plan of inventory to find lacks, gaps, disabilities, and a program of caring for them; a weekly conference of the planning teachers ever looking back and ahead that the group shall move in some steady course, a larger conference of the whole group of teachers frequent enough to keep each in time and in touch with the whole experiment. A plan but a plastic one. A plan which recognizes the vital importance of relationships in life.

That these educational experiences may have a meaning, that they may be integrated one with the other, that things may be stimulated by interest, and vitalized by reality, this is the hope of those who are sharing with forty Horace Mann girls this "adventure in education."

ARTICULATION OF JUNIOR AND SENIOR HIGH SCHOOLS; THE INHERENT NEED, THE DIFFICULTIES, AND A CONSTRUCTIVE PROGRAM

JAMES M. GLASS

EDITOR'S NOTE: *Possibly no public speaker or writer in the United States has had a more intimate contact with the development of the junior-high-school movement than James M. Glass. As principal of Washington Junior High School of Rochester, N. Y., as supervisor of secondary education at Rollins College, Winter Park, Florida, and associate editor of the CLEARING HOUSE, Mr. Glass has lent his influence to the shaping of a rational philosophy of junior-high-school education. The paper which he gives us here is the address he delivered at the Department of Secondary School Principals at Minneapolis, July 3, 1928. His constructive program of articulation is likely to commend itself, even to the most pessimistic advocate of the "good old days."* F. E. L.

I. THE INHERENT NEED FOR ARTICULATION

1. *The Six-Year Secondary Unit.* The four-year high school, through the process of educational evolution, is slowly going the way of the Latin grammar school and the academy. The chief present distinction is the difference between progressive and past tenses.

The six-year secondary unit, or "The Extended Secondary School,"¹ is as inevitable a stage of evolutionary progress as the public high school was an evolutionary advance over the academy. We gave ourselves much concern over the problems of converting the 8-4 plan to the 6-3-3 and 6-6 organiza-

¹ Leonard V. Koos, *The American Secondary School*, chap. I, pp. 37-40.

tion. Yet we have not experienced and are not likely to experience the long and acrimonious contention which characterized the evolution of the semi-public academy into the public high school.

In approaching this problem of articulating junior and senior high schools or any other problem in the six-year secondary unit we need always to be reminded that we are concerned with a period of educational history. Otherwise, we may seriously complicate the solution of our problems by futile opposition to the fourth historical type of secondary education, viz., the extended secondary school.

The best promise, accordingly, for the more effective articulation of junior and senior high schools is to be found in the practically universal acceptance of the junior-high-school movement which is the concrete product of the change from four to six years of secondary education. Another promise lies in the steadily growing understanding by the senior high school of junior-high-school developments.

2. *The Four-Year High School Sponsored the Six-Year Secondary Unit.* In attempting the solution of articulating the two component units of the secondary period, we need also to be reminded that the four-year high school first promoted the extension of secondary education to include grades seven and eight. The junior-high-school movement had its origin in the recommendation of the Committee of Ten that "the secondary-school period should be made to begin two years earlier than at present."

This recommendation was followed by another from the Commission on the Reorganization of Secondary Education that the public-school system should be reorganized into two major divisions of elementary and secondary, each six years in length. Moreover, the Commission, composed almost wholly of high-school leaders, enunciated another principle which has become a basic distinction between junior and senior high schools. To quote from the *Cardinal Principles*: "The six years to be devoted to secondary education may well be divided into two periods which may be designated as the junior and senior periods."²

To the four-year high school, consequently, belongs the credit of the two most significant changes in secondary education since the establishment of the public high school; viz., the six-year secondary unit and the division of these six years into two component periods, the junior high school and the senior high school. Opposition to the junior-high-school movement by the four-year high school is equivalent, therefore, to the desertion of its own child.

3. *Two Types of the Six-Year Secondary Unit.* The coördinate relationship between junior and senior high schools is materially strengthened by the extension of the junior-high-school movement from the 6-3-3 organization of cities to the 6-6 organization of smaller communities. Already, according to the *Fifth Yearbook of the Department of Superintendence*, the latter outnumber the former.

²*Cardinal Principles*, Bureau of Education Bulletin No. 35, 1918, p. 18.

The chief virtue of the 6-3-3 plan is the preservation of the distinct functions of the junior and senior periods and its chief problem is their articulation. On the other hand, the chief virtue of the 6-6 plan is its natural articulation of the six years and its chief problem is the preservation of the distinct functions of the two units. Our problem of articulation is, therefore, almost wholly a problem of city systems where junior and senior high schools are segregated.

4. *Unprejudiced Leadership in Secondary Education Groups Junior and Senior High Schools into a Six-Year Secondary Unit.* Leaders in the secondary field, who by virtue of their positions are unaffected by the prejudice born of exclusive absorption in either the junior- or senior-high-school field, invariably group the two schools into a common secondary six-year unit.

For example, one of the most recent professional books, *The American Secondary School*, by Koos, sets up four aims for the secondary school, three of which are equally binding upon both units, and one of which, occupational efficiency, is the peculiar obligation of the senior high school. The same author postulates six functions, which are the means of realizing the aims, four of which are common to both schools and two of which, exploration-guidance and training in fundamental processes, are the peculiar functions of the junior high school.³

Walter H. Gaumnitz, Bureau of Education, in *School Life* for February, 1928, writes: "In actual practice many

superintendents, principals, and teachers lose sight of the principle that these two units of education have specific functions but a common fundamental objective."

5. *The Psychological Basis of the Six-Year Secondary Unit.* The coming of the six-year secondary unit was nearly contemporaneous with the change from the theory of saltatory development held by Hall and earlier students of adolescent psychology to the theory of gradual or continuous development held by Dewey, Thorndike, King, and others.

Inglis summarizes the implications of the theory of gradual development as follows: "More recent studies of the phenomena of puberty and adolescence have been interpreted to indicate that the adolescent period usually begins at an earlier stage than at the age of fourteen, probably at the age of twelve, and as a result the assertion is made that on that basis secondary education should begin at the same age."⁴

Davis says: "The beginning of adolescence is most emphatically the beginning of secondary education."⁵ And to quote once more from *The American Secondary School*: "The secondary-school period should begin when adolescence begins" (page 69).

The 8-4 plan was consistent with the theory of saltatory development and was abandoned when the saltatory theory was discredited. The 6-3-3 or 6-6 plan is consistent with the theory of gradual development and was adopted when this theory was substantiated.

⁴ Alexander Inglis, *Principles of Secondary Education*, p. 65.

⁵ C. O. Davis, quoted by Inglis, *op. cit.*, p. 65.

³ L. V. Koos, *The American Secondary School*, chap. IV.

Inglis concludes (page 66) that "any sharp separation of elementary and secondary education is without justification." Consequently, the junior-high-school movement has created a unit of gradual transition between elementary and secondary education.

Psychology of adolescence offers, therefore, an indisputable basis for the six-year secondary unit, and for the creation of an initial stage of secondary education for the gradual articulation of elementary and secondary education.

6. *A Gradual Reorganization on the Six-Year Secondary Basis.* Secondary education in any school system may and should begin with the seventh year. The belief has prevailed too long that building facilities predetermine the reconstruction of grades seven and eight upon the basis of initial secondary years. The reorganization of courses of study, particularly in the major fields of English, social studies, mathematics, and science is practicable in grades seven and eight prior to building reconstruction. Other readjustments, e.g., the guidance and activities programs and the adoption of socialized classroom procedure, may also be effected prior to the provision of complete building facilities.

In other words, reorganization of grades seven, eight, and nine as the initial years of secondary education can be effected gradually over a period of years in anticipation of a building program adapted to the complete adoption of the 6-3-3 or 6-6 plan.

It is the practice of many systems to unite the seventh and eighth grades in one or more buildings, to initiate junior-high-school curriculum adjust-

ments practicable to these temporary quarters, and thus to prepare for the complete launching of a 6-3-3 or 6-6 plan when an adequate building plant is provided. A school system may, accordingly, be gradually converted to a six-year secondary basis in respect to educational reconstruction of courses of study, methods, and programs of exploration, guidance, and activities in grades seven and eight or grades seven, eight, and nine as a preparatory stage of a complete educational and building program constructed on the 6-3-3 or 6-6 plan.

II. DIFFICULTIES DELAYING ARTICULATION

So far in the movement towards the six-year secondary unit we have, almost by force of circumstances, concentrated on clarifying the distinctive functions of the junior and senior periods to prevent wasteful overlapping. We have, however, always been conscious that the two periods are complementary. But we have been too busy in establishing the identity of each to divert much effort towards achieving their articulation. Possibly the present lack of articulation is a serious reflection upon both units.

This paper does not attempt to set up an alibi for failure to articulate but it does maintain that it was necessary first to clarify through experience the common and distinct functions of each before articulation became practicable. Beyond any question of doubt the challenge is now presented to both junior and senior high schools to discover first the causes of the present lack of articulation and second, by a construc-

tive program of articulation, to remove these difficulties.

1. *Habit of Intensive and Exclusive Concentration.* The junior-high-school experiment in city systems has been largely conducted independently. Opportunity was needed to undertake the solution of problems new and peculiar to the junior high school alone. Concentration of junior-high-school faculties upon these peculiar problems afforded the opportunity and promoted rapid progress in establishing the movement.

At the same time the senior high school was confronted with the problems of adapting high-school organization and curricula to the most phenomenal growth in enrollment ever experienced in the history of secondary education in America or in any other country.

Each unit was forced by these and other conditions to a period of concentrated attention to its own respective problems. Consequently the habit of exclusiveness grew upon the two schools of the secondary unit. Admittedly it was an unfortunate habit and yet it was a natural outcome of inexorable conditions. Now that the peculiar functions of each unit have been more clearly defined and some problems solved, it becomes difficult to overcome the inertia of the habit.

However far we may carry the professionalizing of education, we can never escape the operation of human motives, prejudices, and habits. The personal equation remains always to be solved. The present need of articulation is admitted as a professional duty.

The difficulties which retard articulation are chiefly wrong personal habits and prejudices. The solution lies largely in the mutual willingness to meet around the conference table and to square our personal attitudes with our professional beliefs.

2. *The Inertia of Exclusiveness Overcome by Mutual Approach.* The habit of exclusiveness naturally produced a lack of understanding because of failure to provide opportunities for understanding. Just as naturally lack of understanding led to misunderstanding out of which arose friction and discord.

It became the almost universal practice of junior high schools to believe that the senior high school failed to show a sympathetic attitude towards their experiments. The converse is equally true. Thus the two units developed unfortunate attitudes of mind towards each other. The solution again does not lie in any attempt to fix responsibility but in a mutual decision to seek opportunities for coöperative action. Friction and discord dissipate in the presence of sympathetic and coöperative conference.

There are plenty of evidences that the friction almost universal ten years ago is disappearing wherever in local, regional, State, or national organizations opportunities are provided for the coöperative working together of junior- and senior-high-school administrators and teachers. The trend away from misunderstanding is established towards a better understanding arising from actual experience in mutual contacts. It remains now to make the habit of

mutual approach as universal as once was the habit of exclusive reserve.

3. *Common and Distinctive View-points.* There have developed in junior and senior high schools conflicting points of view towards secondary education. The junior high school inherited from the elementary school the point of view of the child and psychology as the focus of educational procedure. The senior high school inherited from the college the point of view of subject matter as the focus of its method.

In the one case the point of view led to the adoption of an aim to democratize the secondary unit by a program of functional education which abandoned the prevailing selective principle for the more democratic distributive principle. In the other case the former necessity to prepare a minority of pupils for college rested upon the senior high school and led to a continuance in some degree of traditional college-preparatory education and of the selective principle of eliminating college misfits.

These divergencies in points of view are not wholly remedial. The junior high school must be integrated with the elementary school and the senior high school. At the same time the latter must be integrated both with the initial secondary period and with the college. Each successive unit in the whole range of elementary, secondary, collegiate, and professional education has both common and distinctive features in comparison with preceding and following units. In one respect educational integration requires close articulation of all units and in another respect educa-

tional progression requires distinctive aims and functions. To quote Kilpatrick: "Education is properly conceived as the continuous remaking of the child's life to ever higher and richer levels."⁸

The articulation of junior and senior high schools must be achieved, therefore, through two approaches; first, a more universal agreement in respect to their mutual aims and functions and, second, an agreement in respect to their distinctive aims and functions.

In the former case evidences are becoming clearer that the democratizing of secondary education or functional education, the operation of the distributive principle, the articulation of courses of study, and the program of guidance which have characterized the junior-high-school movement have already to a large extent found adoption in the new philosophy of the senior high school. Thus the focal point of view of the child is remolding all secondary education.

In respect to distinctive functions the junior period must undertake largely alone the exploration of pupils' aptitudes and the rounding out of elementary education. The senior high school must also largely alone assume responsibility for training in occupational efficiency which includes college preparation. Consequently, the senior high school must continue to some degree the dominating influence of subject matter as the basis of all subsequent educational progress.

4. *College Accrediting.* A fourth difficulty in promoting the articulation

⁸ William H. Kilpatrick, "An Effort at Appraisal," Twenty-fourth Yearbook, Part II, National Society for the Study of Education, section VI, page 279.

of junior and senior high schools arises from the present confusion of college accrediting. The movement to restrict accrediting to the senior high school on the basis of 12 units earned in the 10th, 11th, and 12th years has steadily gained adoption among college admission boards and registrars. This cause of friction will be gradually removed.

The movement to confine accrediting relations to the senior high school has received the general endorsement of both secondary units. The uniting of efforts to achieve an accrediting basis in conformity with 6-3-3 organizations will create a helpful attitude of coöperation and will contribute materially to the more effective articulation of both schools.

III. A CONSTRUCTIVE PROGRAM OF ARTICULATION

Any discussion of the problem of articulating the two component secondary schools would be incomplete without the suggestion of a constructive program to promote their integration. Those media of articulation only will be suggested which in one or more 6-3-3 city systems have been subjected to the test of practical use. The writer has been privileged to observe by personal visitation the operation of each of the following agencies, in some city system of schools, in articulating junior and senior high schools.

1. *Director of Secondary Education.* It has become the practice in many cities to designate an associate superintendent as director of secondary schools or to create the position unattached to an assistant superintendency. In a few of the very large systems the

coördinating of all secondary schools is committed to two associate superintendents who have jurisdiction over the respective junior and senior high schools and who closely collaborate in their fields.

It is clearly apparent that the position of director of secondary schools is a direct and effective agency in securing articulation. The successful experience of this experimental supervision in our larger systems has led to the appointment of a secondary-school leader in smaller cities whose size has not formerly warranted an assistant superintendent. This extension of the directorship of secondary schools to systems not previously supporting an assistant to the superintendency is proof in itself of the need and the effectiveness of the secondary-school directorship.

Frequently supervision from the central office is restricted to the director of junior high schools. This position facilitates concentration of supervision upon the problems incident to launching a system of junior high schools. The position is, however, in usual practice only temporarily restricted to this limited field and later becomes coextensive with the whole secondary period.

2. *Junior-Senior High-School Administrators' Conference Group.* The practice of occasional conferences of junior- and senior-high-school principals is very generally followed by all city superintendents. The results in positive progress in effecting articulation are beyond question more extensive and permanent when these conferences are controlled by a program of

stated meetings at regular intervals throughout the school year.

Either the superintendent or his secondary-school director presides at the conferences. Frequently, other supervisory leaders are either regularly in attendance or, upon invitation, in occasional attendance. In other instances vice principals enjoy the privilege of membership. Gradually the custom of a carefully planned program of discussion is adopted with specific assignments to individual members.

This secondary conference group comprises for a superintendent as high a type of professional leadership as he can command among his school staffs. The primary objective is usually articulation of all secondary schools. It is, however, likely that the range of interests will extend beyond this aim and that the conference group will develop into a clearing house for the consideration of many more general educational policies.

3. *Vertical Supervision.* The extension of the secondary period from four to six years has been more influential in promoting the vertical system of supervision than any other single development of recent years in school administration. The introduction of an intermediate school of transition between elementary and secondary education has created in many systems a condition which demanded continuity of supervisory leadership.

The universal curriculum rebuilding of recent years has led to the appointment of supervisors of major courses of study who almost invariably are charged with responsibility to articulate elementary, junior-high, and senior-

high courses of study through a vertical system of supervision. Thus the former practice of delegated supervision in health, fine and practical arts, penmanship, and commercial education has been extended by many superintendents to include supervisors of English, social studies, science, mathematics, and foreign languages.

4. *Organization for Curriculum Integration.* The day has largely passed when the content of courses is determined by the specialist alone. To quote two curriculum leaders, Charters: "The content of a subject is determined by the use to which it will be put," and Babbitts: "Let us discover what the activities are which make up man's life and we have the objectives of education."

Consultation and conference in curriculum making have become the general practice. Curriculum committees of classroom teachers characterize practically all recent organizations for curriculum reconstruction. The articulation of courses of study has been secured by general committees representing elementary, junior- and senior-high-school teachers or by a steering committee composed of committee chairmen. Whatever the organization a conscious effort has been made to integrate the courses of study through the elementary and secondary years.

The challenge to the junior high school to reconstruct courses of study has been insistent. Without reconstruction progress in realizing the purposes of the junior high school, improvement

¹ W. W. Charters, *Curriculum Construction*, p. 308. Franklin Babbitts, "The New Technique of Curriculum-Making," *Elementary School Journal*, September, 1934, XXV, pp. 49-50.

would have been handicapped if not entirely prevented. Necessarily courses of study for seventh, eighth, and ninth years must be reorganized with respect to the allied courses in the elementary grades and in the senior high school.

This reconstruction of the program of studies demands a curriculum organization in which junior and senior high schools must coöperate with regard to secondary courses. These round-table conferences of classroom teachers are a potent influence in securing articulation through the six-year secondary period.

The trend towards articulation of junior- and senior-high-school courses of study is attested by the increasing practice of basing State department courses of study upon six years each of elementary and secondary education. The bulletins of the Commission on the Reorganization of Secondary Education pioneered in the movement towards continuity in courses of study for the six secondary years. The Department of Superintendence of the N.E.A. has published its Fifth Yearbook (1927) on the *Junior High School Curriculum*, its Sixth Yearbook (1928) on the *Senior High School Curriculum* and is now engaged on the problem of articulation.

5. *Single Salary Schedules.* A general consensus of opinion favors equal salaries for equal training and experience among junior- and senior-high-school positions. Practice, however, conforms with belief in only a limited number of city systems. The fact, nevertheless, that some systems offer equal salaries establishes the trend.

The requirement of college training among the qualifications for junior-

high-school positions steadily increases and furnishes the basis for the equal salary standard. The question of a single salary scale is contingent upon common standards of qualifications. Justice demands that any system which establishes professional requirements for all secondary teachers upon a single standard should at the same time establish a single salary schedule.

Once the qualifications become equal the continuance of a senior-high-school scale above that of the junior high school is due only to the traditional practice of paying higher salaries to high-school teachers without the warranty for the practice which existed when qualifications were higher. From the standpoints of training required, teaching abilities demanded, service rendered, professional experimentation and research studies undertaken, hours given, extension and other professional courses pursued—from these and other considerations it must be admitted that the requirements have been more persistently demanded of junior- than senior-high-school teachers.

The persistence of graduated salary scales between junior- and senior-high-school teachers is inconsistent with their common secondary-school status, with their equal qualifications, with their equal professional standards, and with the service rendered. It is difficult to overestimate the influence of a single salary schedule in effecting more complete articulation of the two secondary schools.

6. *Teacher-Training Courses in Secondary Education.* City systems offer the same extension and other teaching

training courses to both groups. This is at least a tacit recognition of their common professional needs. These courses promote mutual study of common problems and produce that community of interests which will at least make the need of secondary-school articulation apparent in professional theory.

The continued practice of offering these professional courses to both groups alike must finally lead from the acceptance of a common basis of professional study to the actual practice of articulating materials and methods of classroom work.

7. Local Interchange of Teacher Visiting. Articulation is everywhere a local problem. Senior-high-school teachers should be informed upon junior-high-school work and vice versa. Opportunities to so inform both groups are readily available wherever the custom of interchange of visits between junior- and senior-high-school teachers exists.

The results of interchange of personal visitation are a better understanding, increased mutual respect, closer personal and professional relations, and more purposeful efforts to effect genuine articulation.

8. Research Studies Comprehensive of Six-Year Secondary Unit. Scientific research, originally restricted to professional centers, has spread to many city systems where a definite organization under the leadership of a director of research assures the continuance of scientific studies to promote cumulative progress. The universal need for a comprehensive scope in the investiga-

tion of secondary problems should result in the organization of research committees representative of both junior and senior high schools.

Here again is afforded an opportunity to convert a purpose to articulate all secondary schools into an established practice by means of research studies mutually pursued and constructive measures formulated explicitly to integrate both units.

9. Continuity in Programs of Activities and Guidance. Extracurricular activities and guidance programs have found ready adoption in both junior and senior high schools. The experiments, however, have been largely conducted independently by each unit. The need for progressive continuity in both the activities and guidance programs has become apparent from experience of the lack of coördination.

Here is a problem of articulation which challenges all administrative leaders, the conference group of principals, the research bureau, the guidance staff, and the sponsors of activities. No city system can attempt the solution of the problem of coördinating these two forward-looking movements in secondary education without enlisting the coöperation of both groups.

10. Secondary to Denote Both Junior and Senior High Schools. Custom has attached a limited connotation to the terms high school, junior high school, and senior high school. No one can be employed to designate them all. Fortunately the more recent custom in defining the term secondary has given it a connotation to comprise all units of a school system above the elementary school and below the college.

Local, State, and national education associations have adopted the practice of organizing a department of secondary education at whose sessions subjects of specific interest to each unit and of common interest to both junior and senior high schools are provided on the programs.

The final sanction for the use of secondary in this comprehensive significance was given by the affiliation in February, 1928, of the Department of Secondary School Principals with the National Education Association. This body of national professional leaders will constitute a most potent factor in hastening the actual articulation of the junior and senior high schools which now jointly and equally compose its membership.

SUMMARIZING

1. *The Inherent Need for Articulation.* The six-year secondary school is the present stage in the history of secondary-school evolution; it is the accepted type of present-day secondary-school administration; it is the creation of the four-year high school; it is the standard adopted by professional leaders in formulating secondary-school programs; and it is the logical sequel to the findings of psychologists in the field of adolescence.

In the practical field of school administration the six-year secondary unit has either been housed in adequate or special buildings or it has been gradually adopted in respect to curriculum reconstruction in anticipation of an ultimate building program which will facilitate its complete adoption.

2. *Difficulties Delaying Articulation.*

There are four outstanding difficulties which delay articulation: first, the practice is common of launching junior-high-school experiments independently of the senior high school; second, the habit of exclusive concentration of both schools upon their own problems creates an inertia now difficult to overcome; third, formerly divergent points of view are slowly giving place to the clarifying of viewpoints which are naturally mutual in the process of articulation and of others which are as naturally distinctive in the process of educational progression; and fourth, college accrediting, once a general cause of friction, is becoming adjusted in conformity with 6-3-3 organizations.

3. *Constructive Program of Articulation.* A constructive program of articulation includes among others the following ten tested media of articulation:

- (a) A director of secondary education
- (b) Junior-senior high-school administrators' conference group
- (c) Vertical supervision
- (d) Organization for curriculum integration
- (e) Single salary schedule
- (f) Teacher-training courses in secondary education
- (g) Local interchange of teacher visiting
- (h) Research studies comprehensive of six-year secondary unit
- (i) Continuity in activities and guidance programs
- (j) Secondary education to denote both junior and senior high schools

ACTUAL PROGRAMS OF ARTICULATING JUNIOR AND SENIOR HIGH SCHOOLS IN ROCHESTER

W. E. HAWLEY AND C. H. HOLZWARTH

EDITOR'S NOTE: *Mr. W. E. Hawley has had the somewhat unique experience of organizing in Rochester, New York, an outstanding junior high school which expanded into a senior high school by the process of adding in successive years tenth, eleventh, and twelfth grades. To a considerable extent his junior-high-school staff, all of whom held college degrees, formed the core of the senior-high-school staff. He has, therefore, been able to work out as successful an institutional articulation as exists in the junior-high-school field. Mr. Hawley is ably assisted by his vice principal, Mr. C. H. Holzwarth.*

P. W. L. C.

A prominent educational writer recently stated that the problem of articulating the junior and senior high schools would be solved as soon as the senior-high-school principals and teachers accept the ideals and principles of the junior high school as valid. If this statement is to be interpreted as meaning that the misunderstanding of the junior high schools by senior-high-school teachers and administrators, which has so often resulted in unjust criticism of the junior students, has proved to be a serious hindrance to the development of the junior schools, then the statement is not true so far as Rochester is concerned.

It must be admitted, however, that in the early days of the junior high schools here a rather critical and questioning attitude was adopted by the senior schools. Thus it appears that the first problem of articulation was one of viewpoint: the senior-high-school teachers feeling that the junior high was endeavoring to pass every pupil on into the senior high school regardless of his scholastic attainments, while the junior-high-school teachers felt that the senior-high-school teachers were flunking entirely too high a percentage of pupils in all classes. The senior-

high-school teachers who were so conscious of the college entrance requirements could not understand the viewpoint of the junior high school that every pupil had talents of some sort and that the school had the obligation to discover these and adapt the pupil's course to him rather than to make the pupil conform to a set curriculum. And this difference of viewpoint was natural. The senior high was not adapted to do what the junior high school was trying to do.

Furthermore, in the selection of teachers for the new junior high schools, preference has always been given to outstanding teachers of the grade schools who are seeking advancement. This indicates *eo ipso* that the administrative authorities wished the viewpoint and methods of the grade school rather than those of the senior high school to prevail in the junior high school, but special efforts were made to bring these grade-school teachers to an understanding of the function of the junior high school. During the year preceding the opening of a new junior high school, training classes in various subjects were arranged with the coöperation and under the direction of the department of education of the

University of Rochester. These training classes were, however, taught by the various subject directors of the junior high schools, all of whom were members of the Junior-High-School Council and hence in closest touch with the growth and development of these schools. Offhand it might seem that the premeditated selection of grade-school teachers predicated at once a break between the junior high and the senior high school, a gap that would have to be bridged before the two schools could articulate properly. Naturally this gap had existed previously between the grade school and the high school, but the new school did not consciously tend to narrow this gap by the introduction of high-school teachers and the high-school point of view, but seemed rather to extend it from the eighth to the ninth grade. It was now the function of the subject directors to endeavor to bridge the chasm by so adapting content and method in each subject that the pupils would find the transfer to the senior high less onerous than before and by means of the training classes under their direction to produce teachers adequately prepared for the task. This has apparently been accomplished with a very considerable degree of success.

It must be admitted that the critical attitude on the part of the senior schools was for some time a source of anxiety to the junior-school administrators, but so far as we know, this attitude did not hinder the development of the junior program in any way, nor did it become a source of unpleasantness for the junior-high-school students when they were promoted to the senior

high schools. There was apparently no discrimination against these students and no feeling of hostility towards them as individuals even by the teachers who were most critical of the junior program.

Every attempt was made to bridge the gap between the viewpoint of the senior-high teacher and that of the junior-high teacher: eminent speakers were brought to Rochester to address teachers' institutes on the aims and functions of the junior high school; *liaison* committees consisting of representative teachers from the senior high school and leading teachers from the contributing junior high schools were formed to discuss problems of articulation; teachers from the senior high schools were invited to speak at the faculty meetings of the junior high schools and vice versa; heads of departments in the senior high schools were called upon to direct the work in the junior high schools and to coördinate it with that of the senior high schools; a Junior-High-School Council consisting of the principals of the junior schools and the various subject directors met with the superintendent and assistant superintendents to discuss the problems of the new school; and finally the principals of the junior high schools met with those of the senior high schools for discussion of mutual problems. Moreover, from time to time, as occasion warrants, teachers from the senior high schools have gone into the junior high schools to teach for a year and gather firsthand information with regard to the problems of the junior high school. If such an interchange of teachers were

possible on a greater scale, it would be of the greatest benefit to the personnel of both divisions.

This critical attitude on the part of the senior high schools has now disappeared. While this is a source of gratification to all concerned, it does not have any very important bearing upon the problems of articulation which are even yet of importance and which are demanding constant study upon the part of the entire school administration: superintendents, principals, and subject directors. So we must conclude that there are important articulation problems left for solution after both the ideals and practices of the junior high school are accepted by all in the system.

From the other point of view, if the statement referred to can be taken as meaning that a favorable and understanding attitude towards the program of the junior high school on the part of senior-high-school authorities will bring about such an adjustment in the senior-high-school practices, and possibly in the junior-high-school practices also, as will facilitate articulation, then we believe that the statement is valid. But we must not assume that this articulation will be easy of accomplishment.

As we look back upon our experiences in establishing junior high schools in Rochester, we feel that we have always had a decidedly favorable attitude upon the part of all for bringing about this necessary adjustment between the two units. Rochester had enjoyed for some years an unusually stable school administration under a superintendent of national reputation whose ability and strength were appreciated to the fullest extent locally. In addition, the two

high schools which Rochester had at that time were outstanding schools in the State. Their principals were broad-minded men, as well as unusually capable in secondary-school administration. A complete feeling of harmony, good will, and understanding prevailed. It was nearly an ideal situation in which to introduce the junior high school, so far as administrative personnel was concerned.

Administrative problems did nevertheless arise and are not even yet fully solved. The most important of these arises from the fact that the junior schools were organized on a multi-curriculum basis which did not correspond exactly to the curricula used in the senior schools. The chief difference lay in the elaborate provisions made in the junior schools for industrial and household arts training which were not duplicated in the senior schools, while the senior schools, being an older type of organization, were not cosmopolitan schools. They had but two curricula, the commercial and the college preparatory. Every pupil had to fit into one or the other as best he might. The junior schools, on the other hand, were cosmopolitan and provided a great variety of shop experience for both boys and girls; electricity, commercial art, lithographing, auto mechanics, machine shop practice, sheet-metal work, printing, cabinet shop, and mechanical drawing for the boys; home nursing, nutrition, laundry work, millinery, sewing, cooking, and home management for the girls. Boys and girls in the junior schools were taught to expect that they could graduate from the senior high schools regardless of

the junior course elected. Some of these students, when they transferred to the senior high schools, experienced great difficulty, and this difficulty has been a matter of concern up to the present time.

A partial solution was arrived at comparatively early by establishing in one of the older high schools an annex in which some of the courses in the industrial-arts high school could be continued. In the other senior high school, such pupils were allowed to carry on their industrial-arts work in the shops of a near-by junior high school and take their book work in the regular classes of the senior high school. Difficulty arose in both cases, however, from the fact that in the junior schools an appropriate type of academic work was associated with the industrial-arts work. When these students attended the senior high school, however, such an arrangement was impossible, and the students often faced an insurmountable obstacle because they were obliged to do their academic work with college preparatory students, on a college preparatory level, and from an academic viewpoint. A further attempt was made to meet this problem by an expansion of the Rochester Shop School which was especially designed for the instruction of boys who wished to prepare for work in the local industries. This school was fully equipped to do nearly every kind of shopwork and was able also to offer academic work suited to the type of student. This school fortunately was headed by a man highly trained in technical education, who had at the same time broad sympathies and a thorough understanding of both the

students and their tasks. The rapid expansion of this school has gone some distance in articulating the junior with the senior high schools. The city has, however, not yet been able to provide an appropriate site and building for this school, and junior-high-school students feel grieved at the thought of leaving a modern school plant equipped with everything for their convenience and use to attend a school in improvised quarters, however excellent the work offered there may be. In this connection, let us mention the fact that the girls were far less fortunate than the boys. Those who had followed a household-arts course in the junior high schools had for some time no outlet in senior schools. The establishment of a six-year high school to which they may transfer and continue their training, has offered a partial solution for this difficulty and the near completion of another one will give these girls still further opportunity.

Ability groupings with all that that means in the matter of instruction and treatment of students is standard junior-high-school practice. The senior-high-school people in Rochester have always wished to be able to take the junior students upon the recommendation of the junior school, place them in groups, and give them instruction appropriate to each individual group, but the constitution of the senior-high-school curriculum with its greater freedom of electives and consequent smaller number of sections in any given subject has up to the present time limited this practice in the senior school. As a consequence, students in the lower ability ranges find difficulty in adjusting to the

uniform requirements of the senior division. This is an articulation problem that still awaits solution and can apparently only be solved in very large high schools where it is possible to have in all subjects a number of parallel sections.

In this connection, it must be remembered that the State Department of Education sets the standard of achievements for all students in the high school, and this standard as well as the standard required by colleges for entrance must be considered by the senior-high-school principals in arranging for instruction of their students. This whole problem is under constant consideration, and the senior-high-school principals are earnestly seeking a solution, but it has been found most difficult to solve. The whole problem may also serve as an excellent illustration of the fact that something more than a favorable mind-set is necessary in solving problems of articulation.

Furthermore, the articulation of the junior and senior extracurricular programs has required considerable thought. The junior high schools have always operated in a highly socialized atmosphere. They are student-centered schools. The desires, ambitions, inclinations of the students are freely expressed by them and are taken into account at every step in arranging for their school activities. The students are taught to feel that to a very large degree they are in control of their own affairs. Their school government is based and operated upon the assumption that the students are to a large degree self-directing. Students are supposed to manage their own clubs and all

their games, sports, and recreations. They are taught to submit to student as well as to teacher authority, and the whole life of the school is based on the assumption of active student participation. For this reason, the assemblies are staged by students, and often have for their main purpose the establishing or winning of support for some student enterprise.

The senior high schools, on the other hand, have been operating upon the assumption that each student has sufficient maturity to regulate his own conduct without interference on the part of other students and with very little on the part of the faculty. The senior-high-school administrators find that this is a workable principle and that it is not difficult to manage the school on this basis, giving such attention as is necessary to the occasional student who does not conform to proper school regulations. As a consequence, student-government operations are minimized and function for the most part only as athletic councils or publication staffs, or something of the like, each council or staff being largely independent of the others, loosely coordinated perhaps by a body usually called the school council, under rather close faculty supervision. One does not have to decide whether or not both junior and senior schools may be right in this treatment of the respective stages of development of the child to see that there is nevertheless an articulation problem here. The junior-high-school students upon entering the senior high school find that while clubs are not compulsory, there are large numbers of them that they may join: bands, orchestras, dra-

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omatic clubs, outdoor activity groups, social groups of various sorts. All these are available in the senior high school exactly as they were in the junior high school with the exception of this item of free selection in the senior schools. Hence it is only in the realm of active participation in school control that students are apt to feel lost in the senior high school. Experience does not show that the students feel this loss keenly for a great length of time. It is possible that they have somewhat outgrown the period where they get the most out of such organization.

In the junior high schools, little attention is given to interschool athletic contests. On the other hand, unusual attempts are made to involve all students in sports and games in what is called the after-school recreational program. Contests are continually being staged between the home rooms which are definitely organized into leagues for the playing of seasonal games. This program has been of great value to the junior students, and largely through the interests of a city-wide director of health education, it has been extended to the senior schools, so that at the present time even at the senior schools the interschool contests are minimized and the athletic activities for all are emphasized. Thus the articulation between the junior and senior athletic programs is fairly complete by mutual cooperation.

Side by side with the problem of curriculum articulation stands that most difficult and most vital problem of articulating the courses of study in the

junior high school with those of the senior high school.

From the very outset, one of the fundamental ideas in inaugurating the junior high school in Rochester was not to save time for the pupil but rather to do away with the sharp break between the eighth and ninth grades, between the grade school and the high school. To accomplish this it was necessary to adapt content and method as has already been indicated. The attempt was made to spread the normal content of the first year high school over the eighth and ninth grades, doing largely background work at a slow pace in the eighth grade and gradually stepping up the rate of progress in the ninth until at the end of the year the pupil should be ready to carry on successfully in the tenth grade (second-year high school).

The normal program of the first-year high-school pupil in the academic course had always been English, Latin (or modern language), algebra, biology. In the junior high school this became English, Latin (or French), general mathematics, general science. In the new school, the formal grammar of the English and that of the Latin were closely correlated, and the same teacher taught a section of its English and its Latin. This meant of course that grammar topics, e.g., the treatment of the various parts of speech, tenses, etc., were so arranged that they were taken up in the English class before they were met in Latin. This obviated the previous working at cross purposes where a pupil might meet a topic in Latin grammar that was unfamiliar to him even in English. Furthermore,

the treatment of any topic in the English class was sure to be adequate for a foundation for the Latin, and the Latin teacher knew at all times exactly where her English class stood. The method and treatment were uniform. Later, when French was introduced, it was found not so easy to correlate the French grammar with an English syllabus which had already been rearranged to fit the Latin. That there is, however, a decided advantage for progress in foreign languages in having the English and the foreign language taught by the foreign-language teacher must be obvious. The Latin work of the first term was planned to begin with a careful study of the Latin elements found in English, e.g., the commonest quotations and loan words, then progressing to the study of derivation of words together with a gradual approach to declensions and conjugations.

The content of the French course was founded upon a similar comparison of the growth and development of English and French based on a study of simple loan words and quotations while at the same time an elementary working vocabulary was being built up by the series method with extended ear training and articulation drill. Formal grammar, as such, plays very little part in the work of the eighth grade but is deferred for the most part until the ninth, at which time the pupils will have something of a linguistic foundation upon which to base grammar concepts and drills.

General mathematics embracing intuitive geometry and some of the elementary processes of algebra has been extended not only to the eighth but

even to the seventh grade with the idea of giving the pupil a viewpoint from which he may see algebra and geometry as parts of a whole rather than as individual subjects with little or no relation to each other as they were formerly taught.

Similarly general science begins in the seventh grade (two hours per week) and is carried through the eighth and ninth grades with a study of the elementary phenomena of nature (air, earth, water, etc.). Here, too, the plan is to give the pupil a comprehensive view of science as a whole, on an elementary plane to be sure, rather than to plunge him at once into a compartmentalized study of science in its various aspects.

In short, the content of the seventh, eighth, and ninth grades is so arranged as to make it possible to produce a pupil who has his eyes and his ears open to see and to hear, who is alive to the opportunities presented to him.

Articulation in the field of method has always presented some difficulty and probably always will because the viewpoint and the aims of the junior and the senior high school can never be entirely the same. Hence there must be differences in method. The problem of attack and study will remain one of the articulation problems between any two schools as well as one of the general problems wherever there are schools.

The greatest complaint of the high-school teacher had always been that the pupil did not know how to study when he came in from the grade school. The new school endeavored to meet this difficulty by "directed" or "supervised study." But there is no salvation in

method alone. Teachers must become skilled in its application, and this demands time as well as expert advice and supervision. It is safe to say, however, that our teachers have progressed a long way along the road to success and that articulation from this angle is much improved, but not so far that constant attention is no longer necessary.

The junior high school from the first has emphasized socialized recitation, supervised study, and the motivation of school tasks as of particular importance. The senior high schools traditionally like to hold the student responsible for motive and for concentration. They are apt to complain that the junior students have to be interested, that they do not know how to study, that they have not well mastered the subject matter requisite to a continuance of their studies. These two viewpoints have been made less divergent by interchange of ideas between the teachers of the two groups and an almost constant discussion of these matters by the subject directors, the superintendent, and the principals. On the one side, the junior-high-school people have come to demand a higher degree of thoroughness in all work than they demanded in the early days of their history. On the other hand, the senior high schools have tended to abandon some of the old methods of recitation and under the leadership of a group of forward-looking departmental heads have carefully explored the possibilities of supervised study, the socialized recitation, and the larger part that the students may well play as compared with the teacher during

the class hour. Local discussion of this problem has led to the general acceptance of the idea that each subject may have its own method by which it is best studied, and that it is the duty of the teacher of each subject to teach the students the methods best adapted to its learning. This has got us somewhat away from the idea that there is a certain set of study habits aside from motivation and concentration that may be applied to the study of all subjects. The best teachers in both schools are now taking the attitude that the crux of supervised study is in giving the students opportunity during the class hour to study their individual subject in the way that that subject should be studied when the student is free to study by himself.

And what is being done to solve the problems we have so hastily sketched? Throughout the entire development of the junior high school in Rochester, there has been a constant series of meetings of the Junior-High-School Council, all efforts being directed towards integrating our secondary program. This Council has been the final authority in deciding all problems affecting the junior high school. At the same time, the superintendent is in constant touch with the senior-high-school principals concerning the problem of articulation. As a result, the problems have been isolated and defined even though their solution has often had to wait upon experience. In addition to this, the junior-high-school principals hold frequent meetings of their own, as do also some of the senior-high-school principals. Whenever new problems of articulation arise, the two groups meet

together for discussion of their practices. That there will always be such problems is apparent, but more evident still is the fact that the two schools are working together in harmony and good will, keeping ever before their eyes the ideal of the greatest good for the greatest number.

Finally, one further step in articulation may well be mentioned as we believe it marks the solution of these vexing problems; namely, the establishment of six-year junior-senior high schools.

The first six-year high school, Monroe Junior-Senior High School, was established as a result of crowded conditions in East High School which made it impossible for that school to receive the graduates of Monroe Junior High School. Accordingly, Monroe Junior, which was then not being used to capacity, was transformed into a six-year high school. Recently, Charlotte High School has become a six-year school, and the Benjamin Franklin School, now nearing completion, will also be a junior-senior high school.

In these six-year high schools, the problems of articulation outlined above disappear. There is one unified viewpoint under one principal; there is only one corps of teachers, practically all of whom teach a combination program,

i.e., partly in the junior range and partly in the senior range; there is only one student body, one *esprit de corps*. The curricula of the junior division are continued through the senior division with the same teachers and with identical equipment; the courses of study of the seventh, eighth, and ninth grades must lead naturally and without break into the tenth, eleventh, and twelfth grades, for all the teachers of a given subject are members of one large department under identical supervision and guidance. There is no change of school environment between the ninth and tenth grades. One guidance department, one boys' adviser, one girls' adviser, one staff function throughout the whole range of junior-senior activity. In a word, the junior-senior divisions are a unit, and articulation between the ninth and the tenth grade is no different than that between the eighth and ninth or between any other two grades.

In short, as a result of five years' experience in the Monroe Junior-Senior High school, we are most enthusiastic in our belief that the six-year high school, organized as a unit (not as two separate schools) offers a most acceptable solution to the moot question of articulation between the junior and the senior division.

BOOK REVIEWS

The Opportunity School—Free Instruction for People of All Ages (Denver Public Schools, Monograph Number II, 1926).

This bulletin, prepared by Emily Griffith, the principal and founder of this very significant school, and Superintendent Emeritus W. H.

Smiley, is a welcome addition to our too little developed literature of adventures in public education.

"The Denver Opportunity School is undoubtedly one of the most interesting experiments in adult education to be found anywhere in the world," said Superintendent Newlon in the foreword. "The creative leadership of Emily Griffith,

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6th, her insight into the problems of the individual, her boundless and understanding sympathy, has inspired a faculty with her own feeling and vision."

In this way and only in this way are true curriculum innovations consummated anywhere. For only as the heart beats a bit faster does the eye look through today's details and habits and catch the vision of a different curriculum, a more glorious and vital and adventurous school.

P. W. L. C.

Socializing Integrating Activities for Grades VII, VIII, and IX (Curriculum Bulletin, Number 2, Board of Education, St. Louis, Missouri, 1926).

This report was, perhaps, the outstanding innovation which developed in connection with the city-wide teacher-committee curriculum revision in St. Louis, Missouri, in 1926-1927.

"Socializing-integrating activities present life situations rich in possibilities for growth through social adjustment. They grow out of the child's natural interests and needs and offer conditions in which children meet each other in a natural way and in which they can use freedom, that is, the exercise of initiative, spontaneity, independence, and self-control. In allowing children all the opportunities for self-expression that they need, it is necessary, however, to guide them so that their inherent powers will develop along the lines of social and educational values. This guidance must be given by the teacher who must see that the activity is such as will not only appeal directly to the interests and capacities of the group but leads to other activities socially valuable."

After listing the general objectives to the attainment of which these activities may contribute the suggested procedures and desirable outcomes for various student activities are set forth in columns for ten typical specific objectives. In the foreword, the committee explicitly denies that any attempt has been made to suggest all of the activities that might be used or to outline a procedure that should be considered superior to all other methods.

The danger involved in so detailed a program as this lies, however, in the implied restriction of pupil initiative. For once the pupils take hold of the home room, club, assembly, governmental, or general social problems, no man can tell what proposals and experiments and conflicts and com-

petitions will develop. In trying to sail between Scylla and Charybdis, the committee which brought out this report has erred, the reviewer believes, in overemphasizing teacher direction and teacher responsibility for the "success" of projects. Uniform "success," especially if assured by teacher control, may and probably will mean educational failure.

The glory of student activities lies in the fact that they are of, for, and by the students. Failure should occasionally result if pupils plan unwisely, decide too hastily, act without due consideration of others' abilities, desires, and prejudices. Nevertheless, had the committee left the detail to be developed by each teacher for herself the report might have veered too far towards abstractions. In any case, we are glad that a curriculum report has been published on student activities. From the point of view of most pupils, these activities form the very core of their curricula.

A. D. W.

The Danish Folk School, by OLIVE D. CAMPBELL (The Macmillan Company, pp. xxi+359).

Of the first importance to the administrators and teachers in the rural schools of America is this clear and sympathetic discussion of the backgrounds, growth, and present status of the folk high schools of Denmark. It should be a powerful factor in guiding the thought of the growing group of American educators who are engaged in the effort to bring about a closer relationship between the school curriculum and the realities of children's lives.

As the author points out, an adequate conception of the folk school can be reached only through an understanding of the theories of Nikolai Frederick Severin Grundtvig, whose life was spent in establishing it and through an acquaintance with the experiences that led to his revolt against the antiquated methods of the Latin School at Aarhus, which he attended.

Grundtvig's bitter reaction against the insistence upon detail, the drill in the catechism, and the endless church-going sowed in him the seeds which were to mature in the form of the new and more liberal conception of education demonstrated in the folk school.

Keenly alive to the contrast between the vigor of ancient Denmark and the deathlike apathy existing about him, he set to work to revive the old robust activity, to restore strength and aspiration to an indifferent Denmark.

The story of his effort is a long one, and the underlying principles upon which he based his plans are not to be described in a review of limited scope. Briefly, however, he founded his hopes on a confidence in the essential soundness of the people. "Human, natural, national" are the words he used again and again. The first and most important office of a school for the people, as he conceived it, must be to arouse desire for truer understanding. To this end, he felt that the living voice of the teacher contributed something that books could not supply.

One of the major activities of the folk schools, therefore, is the lecturing of inspiring teachers. In the lecture room no notes are taken, because no one is preparing for examinations, which are looked upon as obstacles in the path of arousing desires.

There is much in the book that can be useful in directing the thinking of the American teacher. The system as it now operates in Denmark is, of course, not applicable everywhere in precisely the same form. The underlying conception, however, seems a sound guiding principle. Grundtvig brought about vital changes in the life of a people through his belief in the fundamental soundness of their aims and desires. American teachers might well try the efficacy of this point of view.

By presenting the Danish Folk Schools to American readers in such a convincing and attractive way, Mrs. Campbell has done a significant service to American education.

A. D. W.

A Study of Bus Transportation in Consolidated Schools, by MORTON C. LINDSEY.

In carrying out his study of the transportation problem in relation to the consolidated school at Monsey, New York, Mr. Lindsey has set forth certain principles that should be of direct use to other communities in which the same problem is to be faced. His discussion of legal provisions, of private vs. public ownership, of methods of administration, of contracts, and of the qualifications and supervision of bus drivers will be distinctly helpful to administrators who have to provide for the transportation of pupils. The conclusions are supported by well-presented tables of costs and comparisons of systems throughout the country.

A. D. W.

Rural Life at the Crossroads, by MAY CAMPBELL (Ginn and Company).

After fifteen years of research into the conditions of rural life and rural education in America, Dr. Campbell presents a vivid picture of the need for more adequate educational facilities for the farm districts. He sees a serious menace in the failure to make the right kind of building, equipment, and teachers available for the rural population.

In Dr. Campbell's opinion, the problem of farm relief is an economic one; it can be attacked effectively only by intelligent coöperation leading to organization for coöperative marketing. Under the existing conditions such coöperation is hindered by the ignorance of the farmers who ought to organize. This ignorance is perpetuated by the inadequacy of rural education. The result is the continuance of conditions that lead to the increase of urban and the decrease of rural population, until a serious menace to society results.

Dr. Campbell sees the possibility of amelioration of these conditions through the organization of consolidated schools with appropriate curricula and well-trained teachers. His treatment of a vital economic problem holds out a challenge to the administrators and teachers of rural-school systems.

A. D. W.

The Small High School, by JOHN RUFİ (Teachers College, Columbia University, Bureau of Publications).

One of the crying needs in the field of secondary education is found in the inadequate administration of the small high schools. In his careful and intensive study of five schools of this type, Dr. Rufi has brought to our attention and stated specifically some of the most outstanding of their needs.

Dr. Rufi's analysis of the activities carried on in the five schools lead him to conclude that rather extensive changes are needed in the curricula, the buildings and equipment, and the methods of State supervision. When it is noted that the five schools in question were selected for study because they were superior to the general run of small high schools, the importance of the problem becomes evident.

The reader of Dr. Rufi's book will find a clear picture of the small-high-school situation, supported by convincing evidence.

A. D. W.